

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 709.—Vol. XIX.]

LONDON, SATURDAY, MARCH 24, 1849.

[PRICE 6D.]

Stannaries of Cornwall.—In the Vice-Chancellor's Court.

TIPSET v. MANTLEY.

IN RE WHEEL HENRY MINE.

NOTICE IS HEREBY GIVEN, that PURSUANT to an ORDER, or DECREE, made in this cause, and bearing date the 12th day of Feb., a PUBLIC AUCTION will be held at FRANK'S ROYAL HOTEL, TRURO, on Thursday, the 30th day of March inst., at Three o'clock in the afternoon, for SELLING, in such lots as shall be then and there determined on, TWO (109th) PARTS, or SHARES, of and in the said MINE, and the LIKE PARTS, or SHARES, of and in the ORES, HALVANS, MACHINERY, MATERIALS, and OTHER EFFECTS upon and belonging to the said mine.

For further information, application may be made to the agents on the mine; or to Mr. Stokes, solicitor, Truro.

Dated Registrar's Office, Truro, March 14, 1849.

Stannaries of Cornwall.—In the Vice-Chancellor's Court.

IN THE CONSOLIDATED CAUSE OF

CHAZZ AND OTHERS v. FEGAN.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned consolidated causes, and bearing date the 8th day of February last, Order and Decree that a SALE be made of the ORES and HALVANS, and (if necessary) the MACHINERY, and MATERIALS upon and belonging to WHEEL CURTIS MINE, in the parish of CROWAN, within the said Stannaries, under the direction of the Registrar of the Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the same Order or Decree.

Notice is hereby given, that, pursuant to the said Order or Decree, and with the consent and approval of William Brougham, Esq., the Master charged with the winding-up of the affairs of the Wheel Curtis Copper Mining Company, a PUBLIC AUCTION will be held at WHEEL CURTIS MINE, on Friday, the 18th day of April next, and following day, at Eleven o'clock in the forenoon of each day, for SELLING, either together or in lots, the under-mentioned

MINING MACHINERY AND MATERIALS.—VIZ.:

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| 1. 70-inch cylinder STEAM-ENGINE, complete, 10-hp stroke in cylinder, 8-feet in shaft, with two boilers, about 32 tons. | 110. Fall-ropes of ladders |
| 2. 16-inch pumps | 111. Balance-hobs |
| 3. 11-inch ditto | 112. Rod-plates |
| 4. 15-inch ditto | 113. Capstan and rope |
| 5. 9-inch ditto | 114. Shears |
| 6. Top-drum | 115. Horse-whips & shaft tackle, complete |
| 7. 15-inch working barrels | 116. Wood air-pumps |
| 8. 15-inch plunger case, stuffing-box, and gland | 117. Pieces 14-inch rods, 45 feet each |
| 9. 10 and 11-inch plunger-pole | 118. 10-inch rods, 30 feet each |
| 10. 10-inch ditto | 119. Wood clouters |
| 11. 12-inch working piece, & 8-inch do. | 120. Beam and axle of capstan |
| 12. 8-inch do. | 121. Cat-head capstan and rope, complete |
| 13. 16-inch do. | 122. Iron tube |
| 14. 16-inch do. | 123. Wood sheds, with floors |
| 15. 16-inch do. | 124. Hatches |
| 16. 16-inch do. | 125. Fethorne wood flat-rods, stands, &c. |
| 17. 16-inch do. | 126. Screw plates and taps |
| 18. 16-inch do. | 127. Pump rings |
| 19. 16-inch do. | 128. Glands and staples |

Grinding stones, 17 wheels, a large set of blocks, 2 smaller; ballows, 1 anvil, 1 vice, 1 scales, boxes and clacks, about 9 cwt. of lead ore, 2 cwt. powder, 59 cwt. weights, a quantity of old junk, wheelbarrows and handbarrows, new and old iron, new and old timber, iron kiddles, mandrill, a set of carpenter's, smith's, and miners' tools, COUNTING-HOUSE FURNITURE, together with a large quantity and great variety of other materials in general use in mines.

Pursuant to the same application may be made to Mr. Morris, at the mine; Captain Evans, St. Agnes; and for further particulars (if by letter, pre-paid) to Messrs. Wright, Smith, and Shepherd, 15, Golden-square, London; or Mr. Roberts, Truro, solicitors; or to Mr. Stokes, solicitor, Truro.

Dated Registrar's Office, Truro, March 21, 1849.

GLAMORGANSHIRE.—FREEHOLD FARMS AND MINERALS.

MESSRS. MORRIS & SON WILL SELL, BY AUCTION, at the CARDIFF ARMS INN, CARDIFF, on Saturday, the 7th of April, 1849, at Two o'clock afternoon (unless disposed of by private contract in the mean time, of which due notice will be given), subject to such conditions as will then and there produced.

LOT I.

All that valuable FREEHOLD FARM AND LANDS, called GWAN GLEBAR ISSA, situate in the parish of EGLWYLLAN, in the county of GLAMORGAN, and containing, by admeasurement, 572, 2a, 36c, or thereabouts; together with all the MINES and MINERALS thereunder. The farm is now in the occupation of Mr. John Edmunds, under lease, whereof twenty-eight years are unexpired from the 2d of February, 1849; at the very low rent of £30 per annum, and adjoins the Aber Estate and the Lands of Sir Chas. Morgan, Bart. — Goodrich, Esq., and others.

LOT II.

All that valuable FREEHOLD FARM AND LANDS, called TYR CLWYD, situate in the said parish of EGLWYLLAN, and containing, by admeasurement, 544, 1a, 12c, or thereabouts; together with all MINES and MINERALS thereunder. The farm is now in the occupation of Mr. Edward Edmunds, as yearly tenant, at the rent of £55 per annum, and adjoins Myrdd May, and lands of Lord Dynevor, Lord Plymouth, Mr. Edmunds, the Principal and Fellows of Jesus College, Oxford; and others.

The celebrated Macnamor or Llanvitt wells, which produce the most valuable bituminous coal in South Wales, have been worked extensively within a mile of the above farms, which are situate about nine miles from the port of Cardiff, about three-fourths of a mile from the Glamorganshire Canal, and one mile and a half from Caerphilly.

The respective tenants will show the lots, or to Mr. Lewis Thomas, solicitor, Swansea, who will produce the plans of the estate, and give any further particulars, and of whom particular and conditions of sale may be had.

IMPORTANT AND EXTENSIVE SALE OF FIR WOOD.

THERE WILL BE EXPOSED TO SALE, BY PUBLIC ROUP, within the Hotel at Fochabers, on Friday, the 15th day of April next, at One o'clock P.M., the extensive and valuable

FIR WOODS OF THREPLAND AND SLEEPERSHILL.

Belonging to the trustees of the late Earl of Fife. These woods are situated between FOCHABERS and ELGIN, adjoining the turnpike-road, and about 5 miles from the shipping port of Garmouth, on the Moray Firth. Threpland contains upwards of 140,000, and Sleepershill upwards of 40,000, cubic feet. The Woods will, in the first place, be exposed in two lots, as above; and if not sold, will be thereafter subdivided into lots to suit intending purchasers. The Woods may also, if desired, be allowed to remain for a certain period on the ground.

The articles and conditions of sale may be seen, and all particulars ascertained, on application to Inglis and Burns, W.S., Edinburgh; James Young, land surveyor, Perth; or Alex. Forthick, Esq., of Newton, Elgin; and Mr. Pennycook, forester at Cottois, Lhanbrydy, by Elgin, will point out the boundaries.

Edinburgh, Feb. 24, 1849.

CORNWALL.—TYWARNHAILE MINES.

IMPORTANT AND VALUABLE COPPER MINES TO BE LET, BY PRIVATE CONTRACT, comprising the extensive SETTIS formerly known as

UNITED HILLS, WHEEL CHARLES, and SOUTH TOWAN, WHEEL FANCY.

belonging to the Duchy of Cornwall, in the parish of SAINT AGNES.—These mines having been surrendered to the Duchy by the late lessees, during the extreme pressure of the latter part of the year 1847, have since been placed in good working order, and are yielding large and increasing returns. They are now to be leased, at a moderate rate of dues, for a term of 21 years.

An arrangement can be made for putting the lessee of the Tywarnhaile Mines in possession of the Duchy of Cornwall, at the West Wheel Sparrow, Basset's United Hills, Wheel Charles, and Wheel Fancie, the property of the representatives of the late John Basset, Esq.

Proposals will be received at the Duchy of Cornwall Office, Somerset House; and any further information may be obtained by application there, or to R. Taylor, Esq., Falmouth, Duchy of Cornwall, Somerset House, Feb. 20, 1849.

TO BE SOLD, a valuable FREEHOLD ESTATE, of about 340 acres, containing rich VEINS of ANTHRACITE COAL and IRONSTONE, situate within half a mile of a harbour and railway.—Also, TO BE LET, on very advantageous terms, SEVERAL HUNDRED ACRES of COAL and IRONSTONE, adjoining the above, and with shafts and levels already open. The property is well worth attention, as such advantages are seldom offered to the public as the present.

Apply to Thomas Stokes, Tenby, Pembrokeshire.

VALUABLE SLATE QUARRY, in CARNARVONSHIRE. TO BE LET, for such term, and on such conditions, as may be agreed upon, the RIGHT of WORKING a valuable ROCK OF SLATE, on the BLAENT-GRW-FRIDD, in the parish of PENMACHNE, upon which a large sum of money has been expended in driving a level, and in other works. The metal of this rock has been proved to be equal to that of the finest Festiniog Quarries, which lie in the vicinity. The undertaking would suit a joint-stock company or a private speculator, as it can now be brought into easy and extensive work, at a comparatively small outlay.

For particulars apply to Francis Halliwell, Esq., National Provincial Bank, Dole, and to view the quarry, to Mr. Humphrey Williams, Biscay-cwm Farm, Penmachne.

CHESTERFIELD, DERBYSHIRE.—TO ENGINEERS.

TO BE DISPOSED OF, BY PRIVATE CONTRACT, the FORGE IRON-WORKS and PREMISES, at CHESTERFIELD, where the late Mr. Joseph Thompson for many years carried on an extensive engineering business, chiefly in the construction of steam-engines; and also the WATER-POWER, the STEAM-ENGINE, and valuable ENGINEERING MACHINERY connected with the works.

The works are situate in the midst of a mining and manufacturing district; the business connection attached to them is large and highly respectable, and they are capable of proving a most eligible investment of capital to any purchaser who is a practical engineer. For particulars apply to Mr. Busby, solicitor, Chesterfield.

FLINTSHIRE.

TO BE SOLD, BY PRIVATE TREATY, the following VALUABLE PROPERTY—by order of trustees:—

LOT 1.—ONE UNDIVIDED MOIETY, or HALF PART, or SHARE, of and in all that FREEHOLD FARM AND LANDS, with a good HOUSE and suitable OUTBUILDINGS thereon, called NORTHOP HALL, in the parish of NORTHOP, in the county of FLINT, containing, by estimation, 140 acres, or thereabout, now in the occupation of Thomas Whitley, as tenant thereof. This Lot lies contiguous to the old turnpike-road, leading from Northop to Hawarden, and is in all respects very eligible situate. The owner of the other moiety of the above property is prepared to dispose of the same, and would join his co-proprietors in a sale of the entire estate.

LOT 2.—ONE UNDIVIDED THIRD PART, or SHARE, of and in all the COAL and MINERALS under Lot 1.

LOT 3.—ONE UNDIVIDED THIRD PART, or SHARE, of and in all the COAL and MINERALS under all those LANDS, comprising an extent of 100 acres, or thereabout, commonly called, or known as, the DOBLEN ESTATE, in the parish of Northop aforesaid.

LOT 4.—ONE UNDIVIDED THIRD PART, or SHARE, of and in all the COAL and MINERALS, under all that ESTATE, commonly called the CHESTERFIELD FARM, in the parish of Northop, aforesaid, and containing by estimation 112 acres, or thereabout. The main and other beds of coal have been proved to extend under a great part of the foregoing lands, and are now in the course of successful working by Messrs. Rigby and Hancock. The Chester and Holyhead Railway runs through the Chester Farm Estate, which abuts on the River Dee, and affords convenient situations for the erection of good shipping places; and to the use and enjoyment of which the proprietors of Lots 2 and 3 would have equal right with the proprietor of Lot 4.

LOT 5.—ONE UNDIVIDED THIRD PART, or SHARE, of and in all those several and well-known COLLIERIES in the parishes of NORTHOP and HAWARDEN, now worked and carried on by Messrs. Rigby and Hancock; and of and in all the leases under which the same are held; and of and in all the powerful engines and machinery, railways, vessels, book debts, and other stock and materials appertaining thereto. The situation of the collieries is excellent, having good turnpike roads connecting them with all the surrounding country. They also lie within an easy distance of the River Dee, and the Chester and Holyhead Railway, and by well-appointed private railways, running through the lands of the lessees are thoroughly connected therewith; "sidings" to lead from the former railway to the yards or depots of the lessees, on the banks of the river, and in the course of formation, and altogether the conveniences for the transport of coal to all parts of the kingdom, either by water or by railway, are most effectual and complete.

The vendors, if required, would treat for the disposal of all the property in one entire lot, or in two separate lots. The Northop Hall Estate forming Lot 1, and all the remaining lots forming Lot 2.

For all further particulars, and to treat for all or any of the Lots, apply to H. L. Rigby, Esq., Hawarden, Flintshire; James Boydell, Esq., land and mine agent, No. 34, Thread-needle-street, London; or to Mr. Wm. Williamson, solicitor, Holywell, Flintshire.

March, 1849.

EXTENSIVE IRON-WORKS FOR SALE.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, GLASGOW, upon Wednesday, the 11th day of April next, at One o'clock in the afternoon (if not previously disposed of by private bargain), the

BLAIR IRON-WORKS.

belonging to the Ayrshire Iron Company, situate in the parish of Dalry and county of Ayr.—These works, which have been recently erected at an immense cost, consist of

TWO BLOWING ENGINES, FIVE BLAST-FURNACES, WORKMEN'S HOUSES, STEAM-ENGINES for working the minerals, together with UTENSILS at the pits, furnaces, &c., all in working order, and capable of producing upwards of 35,000 tons of pig-iron per annum.

One of the blowing engines, high-pressure, estimated at 30-horse power, was erected in 1847—the other, a condensing engine, was erected in 1847, and is estimated at 200-horse power; the latter being capable of blowing five furnaces, and both fitted up in the most substantial manner, and at present in good working condition.

The furnaces have been erected with the greatest care, and are fitted with air-heating apparatus of the most approved construction. The make of each furnace has generated upwards of 150 tons of iron per week, and some of them have produced 180. There are, besides the manager's house and store buildings, 167 workmen's houses, in a habitable state, attached to the furnaces and pits, and there are 20 partly built, which could be finished at a small additional outlay. There are also a new foundry, Wright's shop, fire-brick work, smithy, &c.

THE MINERAL FIELDS consist of COAL, IRONSTONE, LIMESTONE, and FIRE-CLAY, held in lease by the company at moderate fixed rents and royalties, all situated within easy distances of the furnaces, and for the most part have the advantage of railway communication.

THE COAL FIELDS consist of several hundred acres, of which only a small portion has been wrought; several pits, fitted with good engines and machinery, are sunk to the coal, and partly in operation.

THE IRONSTONE consists of the well-known BLACK-BAND, yielding about 3000 tons of calcined stone per acre, and it has been estimated that there are 300 acres, or thereby, still to work, besides about 300 acres, which, from borings just completed, it is ascertained also exists, as well as in adjoining lands, the minerals in which are still undisposed of. There is a large extent of CLAY-BAND IRONSTONE, hitherto little wrought, but capable of yielding a large output. There are also pits, with excellent steam-engines, some of them in present operation, and others ready to resume working.

THE LIMESTONE QUARRY is worked by open cast, and is connected with the works by railway.

THE FIRE-CLAY is abundant, of excellent quality, and cheaply produced. There is a large stock of ironstone on the ground, which can be got at a valuation, so that the works can be put into immediate operation, and having a connection with the Glasgow and Ayr and Arran Railway, along which the produce has the privilege of conveyance at low rates, the present affords an excellent opportunity for parties entering into the iron trade.

Considerable progress has been made in the erection of extensive malleable works, immediately adjoining the pig-iron works, which will be sold either together therewith or separately.

Memorandum of leases, plans of the property and mineral workings, may be seen, and every necessary information afforded, on application to Mr. Bignart Dalry; Mr. Watson, 32, and Mr. Brown, 25, St. Vincent-place, Glasgow; Messrs. McClelland and Mackenzie, accountants, Glasgow; Messrs. Gibson, Craig, Dalziel, and Brodie, W.S., Edinburgh; or Messrs. Montgomery and Fleming, writers, Glasgow—the last being in possession of the title deeds and articles of roup.

N.B.—The purchaser of these works has an opportunity of at the same time acquiring the mansion-house and lands of Pitcon, immediately adjoining.

Glasgow, March 9, 1849.

VALUABLE ESTATE AND MINERAL FIELD IN AYRSHIRE FOR SALE.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, Queen-street, Glasgow, upon Wednesday, the 11th day of April next, at One o'clock afternoon, unless previously disposed of by private bargain, all and whole the

LANDS AND ESTATE OF PITCON.

Extending to about 216 acres, (imperial measure, as more particularly described in former advertisements); together with the MANSION-HOUSE, and OFFICES and GARDEN thereunto belonging; and the whole MINERALS and METALS in the said Lands, excepting those 9 acres, or thereabouts, Scotch measure, now belonging to the Glasgow and Ayr Company, of their present working seam of Ironstone in the said Lands; and also excepting the Pitcon Railway and Branches, in so far as the same are within, and pass through, the said Lands.

THE MANSION-HOUSE is in good order and repair, and has attached to it a set of suitable and commodious offices, with walled garden, subsherry, and pleasure ground; and the whole are well enclosed.

THE LANDS, let under lease, extend to about 140 acres Scotch or thereby, and are at present held by a respectable tenant, at a surface rent of 4902 sterling per annum. The farm standing is in good order and repair.

THE MINERALS, comprising the most valuable description of Ironstone, extend to about 140 acres still unwrought, and are held upon lease by the Ayrshire Iron Company. Upon a moderate calculation, the black-band yields about 3000 tons calcined ironstone to the imperial acre. There are, besides, several seams of Coal and other Minerals in the Lands.

This estate is situated near to the village of DALRY, at which there is a station upon the line of the Glasgow, Paisley, and Ayr Railway, and in the immediate neighbourhood of the Ayrshire Iron Company's Works, with which it is connected by railway communication, and will, in consequence, form a most desirable and profitable investment to the purchaser of the Ayrshire Iron Company's works (the Blair Iron Works), which, along with the benefit of the mineral lease of Pitcon, are advertised to be sold, by public roup, at the same time and place with this estate.

The public and parish burdens payable from the estate are small. For further particulars, application may be made to McClelland and Mackenzie, accountants, 125 Ingram-street, Glasgow; Robert McCowan, accountant, 17 Gordon-street, there; Knox and Findlay, writers, 33 St. Vincent-place, there; James McCosh, writer, in Dalry; or to Douglas and Ranken, writers, 81, St. George's-place, Glasgow, in whose hands the articles of roup and title deeds, and a plan of the estate and mineral workings, may be seen.—Mr. McCosh will give directions for the lands being pointed out, and the mansion-house, offices, and garden, being shown to inquirers.

Glasgow, March 12, 1849.

WANTED.—The ADVERTISER is at liberty to enter into an ENGAGEMENT as AGENT, or MANAGER, of LEAD or OTHER MINES: he is practically acquainted and conversant with mines and mining operations, also with every description of engine and machinery used in the working of mines and dressing of ores.—For further particulars (apply by letter) address "A. B.," care of Mark Sherriff, Esq., smelter and lead merchant, Middleton-in-Teesdale, Barnard Castle, Durham.

IRON AND TIN-PLATE TRADE.—WANTED, a PARTNER, either active or sleeping, with a capital of not less than £2000, to JOIN the ADVERTISER in CARRYING ON the ABOVE TRADE, in a northern county. None but principals, or their solicitors, will be treated with.—Address "A. B.," Chas. Gardner, Esq., solicitor, 10, Old Jewry Chambers, London.

TO MINERS AND OTHERS.—FOR SALE, about FIFTEEN TONS of BEST FOUNDER'S SLAG.—For particulars apply to Wm. Cuthbert, 18, Back Church-lane, St. George's-in-the-East, London.

LARGE QUANTITY OF LEAD ORE—of a very superior quality.—FOR SALE, now lying in a warehouse near to the Railway Station, PENRITH, Cumberland, where it can be seen on application to Mr. Matthew Robinson, Penrith; or samples of the same will be sent, on application being made as above.

WANTED.—A SECOND-HAND FLY-WHEEL, from 4 to 6 tons, 16 to 18 feet diameter. Also, a SECOND-HAND ROILER, about 7 tons.—Apply to John Thomas, Bangor-street, Caernarvon.

HIGH-PRESSURE ENGINE FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, a HIGH-PRESSURE STEAM-ENGINE, 40-horse power, well adapted for drawing and pumping; cylinder 3 feet 6 inches diameter, stroke 5 feet, fly-wheel 30 feet diameter, and beam 19 feet long. Also, TWO CYLINDRIC ROILERS, 34 feet long, and 6 feet diameter. The engine may be seen at the Bramhope Tunnel, on applying to Mr. Taylor, Tunnel Office, Bramhope, near Leeds; and further particulars may be had, on application to Mr. Bourne, engineer, at the Leeds and Thirlby Railway Offices, 5, South Parade, Leeds.

STEAM-ENGINE.—A PORTABLE, or INDEPENDENT, ENGINE of 16 horse power, constructed on Boulton and Watt's low pressure principle, having a stroke of 3 feet, a cylinder 22½ inches diameter, an air-pump 1½ inches diameter, a fly-wheel, 15 feet circumference, and weighing about 84 cwt. Is to BE DISPOSED OF.—This engine was made by Poul, Williams, and Co., of Manchester, and erected last year, for a temporary purpose.—Pre-paid letters on the subject, addressed to Messrs. Grout and Co., 12, Foster-lane, London, will receive immediate attention.

STEAM-ENGINE FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, a 64-inch cylinder PUMPING ENGINE, on the Cornish principle, without boilers—9-feet 6-inch stroke in cylinder, and 7-feet 8-inch in shaft, with bright working gear, &c.—For further particulars, and to treat for the same, apply to Mr. Wm. Gregor, Ravenhill, Swansea.—March 19, 1849.

STEAM-ENGINES FOR SALE.—A BARGAIN.—A PAIR of MODERN ENGINES, of 160-horse power each, with BOILERS—all equal to new, fitted to Smith's Patent Propeller, and complete, with driving wheel, funnel, steam-pipe, gearing, &c., admirably adapted for a ship of large tonnage, or for mining purposes. Also, TWO PAIRS of MARINE BEAM ENGINES, by Fawcett and Co., of Liverpool—each engine of 50-horse power, in capital condition.—For particulars apply to Messrs. Bayley and Ridley, 3, George-yard, Lombard-street.

COLLIERY TO BE LET, SWANSEA.—TO BE LET, for such a term of years as may be agreed upon, the COAL LYING UNDER AN ESTATE of about TWO HUNDRED ACRES, within 4 miles of the port of SWANSEA. An engine has been erected, and one seam of coal has already been won. The small is suitable for general manufacturing purposes, and the large is most excellent as steam-packet coal. The pit is situate within a few yards of the Swansea Canal, to which the communication is already made.

For particulars apply to Mr. Phillip Richard, Gorse Colliery, near Swansea.

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 24, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 1½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.: St. John del Rey, Tamar, Trevikey and Barrior, Great Devon Consols, Alten, Australian, Condorow, East Wheel Ross, and Wheel Seaton Mines, Great Consols Gwennap, Trevikey, Trevelian, Mary Anne, Tamar, Tincroft, and Keswick Mining Company.

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEFERRED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at correspondingly low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities.

MINING OFFICES, No. 8, GEORGE-YARD, LOMBARD-STREET, LONDON.—Mr. RICHARD THOMAS (who has had 20 years' experience as a mining agent in London) OFFERS his SERVICES in the PURCHASE and SALE of MINE and OTHER SHARES, on commission. Purchases in many valuable mines may now be made at unprecedentedly low prices. The fullest information given (without charge) relative to mining investments and operations.

N.B.—R. T. has now ON SALE a limited number of SHARES in an undertaking of offering unusual advantages, situated in one of the best mining districts in Cornwall. Full particulars will be furnished on application.

MINING OFFICES, No. 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.—Messrs. WATSON and CUELL have FOR SALE, SHARES in Helgoland, Down, East Tamar, South Tamar, Devon Great Consols, St. John del Rey, Trevikey, Mary Anne, and most of the best dividend-paying mines in Cornwall; and are PURCHASERS of Condorow, North Pool, Stray Park, Trevikey and Barrior, Tincroft, West Wheel Jewell, &c., &c.—Messrs. W. and C. have also FOR SALE, SHARES in the GRAND JUNCTION WATER-WORKS.

MR. THOS. P. THOMAS, MINING AGENT, AND DEALER IN RAILWAY, GAS, BANK, INSURANCE, AND OTHER SHARES.

3, GEORGE-YARD, LOMBARD-STREET, LONDON.

T. P. THOMAS is a SELLER of SHARES in the leading MINES of Cornwall, Devon, and Wales—paying from 10 to 30 per cent.—Statistical information afforded upon personal application, or by letter.

MR. RYE, 77, OLD BROAD-STREET, is a BUYER in South Frances, Condorow, Stray Park, West Tolgus, Wellington Mines, Carn Brea, Comfort, Levant, East Pool, East Crofty, Treleigh Consols, Mary Ann, and SELLER in South Basset, West Seton, West Caradon, Devon Great Consols.

MR. JAMES STRIDE, MINING AGENT, AND DEALER IN SHARES, 27, SPRING-GARDENS, LONDON.

JAMES LANE, MINING SHARE DEALER, 60, OLD BROAD-STREET, LONDON.

METALLURGICAL ASSAYING AND ANALYSIS, on the most reasonable terms, by ALFRED SENIOR MERRY, 24, RA WLEY-ROAD, KENTISH TOWN, LONDON.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of ALL PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 24, RA WLEY-ROAD, KENTISH TOWN, LONDON, to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

GUADALCANAL SILVER-MINING ASSOCIATION.—SPECIMENS of the ORE from the above-named MINES having been RECEIVED, the shareholders may INSPECT the same at the OFFICES of the association, 24, Broad-street-buildings, City.—March 16, 1849.

KINZIGHT MINING ASSOCIATION, No. 1, Adelaide-place, March 24, 1849.—The SECOND GENERAL ANNUAL MEETING of this association will be HELD at the offices of the company, 1, Adelaide-place, London-bridge on Friday, the 20th April next, at One o'clock precisely.

GEO. COPELAND CAPPER, Secretary.

PENNANT AND CRAIGWEN CONSOLIDATED LEAD MINING COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders of this company will be HELD at the offices, 37, Thread-needle-street, on Tuesday, the 3d of April, at twelve o'clock precisely, to receive a Report from the directors on the proceedings of the company; to make a call, to forfeit shares; and for other important business.

WILLIAM W. MANSELL, Fugate.

TINCROFT MINING COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the shareholders in this company will be HELD on Tuesday, the 10th day of April next, at 44, Fishbury-square, at Two o'clock precisely.—London, March 16, 1849.

NEUBER'S IMPROVED LIQUID GLUE is impervious to DAMP or HEAT, without smell, and equal, if not superior, in strength to any other glue. It is used as a cement for IRON, WOOD, STONE, MARBLE, IVORY, GLASS, CHINA, and EARTHENWARE, PLASTER MODELS, for every description of FANCY WORK, and for household purposes.

It may be used at a moment's notice, and requires no preparation.

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(Continued from March 3.)

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at a convenient distance, commensurately with the combustion of the material. However, the experiments of the most skillful operative chemists have long been exhausted in efforts to discover mechanical means to retain at their respective and appropriate distances, without the aid of the human hand, these carbon points, which are consumed in an unequal manner proportionate with the combustion to which they are subject. Although I considered the solution of this problem as almost impossible, I, nevertheless, devoted my attention to unavailing experiments. But the result of my observations and of a long experience, and still more the useless attempts of so many men specially devoted to the subject, soon induced me to return to other investigations. Whatever may be the point of perfection to which mechanical science may be brought, how can we conceive an idea of a machine however complicated, which, endowed as it with intelligence and thought, can predispose itself to meet obstacles and effects which arise only at unforeseen and indeterminate times? If the substance of the carbon electrodes were consumed in a manner always equal, this difficulty would soon vanish; but the fact is very different. Let the compound carbon matter be prepared with the greatest possible care, or the most careful selection made of the best of the produce of this gas carbon formed by successive layers deposited in the retorts, these materials always consume unequally, and from a variety of causes. Amongst those causes may be enumerated the following:—The inequality in the energy of the current; the composition of the electrodes; the variation of their distance; the inequality of the nature of either of the points; the irregular transmission of the carbonaceous particles from one point to the other; the alteration by amalgamation of the zinc with mercury; even the influence of atmospheric electricity acting variably, and in certain weather, on the conductors of the battery, &c. The condition most favourable to the production of a more or less continuous light will be at the same time the most unfavourable to the development of its intensity. The nearer we approximate the points, the longer will be the duration of the light, by reason of the diminution of loss in the carbonaceous matter; but at the same time it will be very weak. On the contrary, the maximum of separation of the carbon points will yield the greatest intensity of light; but, in the same ratio, it diminishes the chance of prolonged action. And in circumstances where it is necessary to extend the rays by any optical arrangement, composed of lenses or parabolic reflectors, how can we preserve this light in a focal centre from which the spark must continually vary by the combustion of the electrodes, one of which is consumed twice as rapidly as the other? Unless, indeed, in the construction of the apparatus, still further complications be resorted to by a sufficiently sensitive movement to keep the optical instrument at the variable focus of the spark. After having fruitlessly exhausted all experiments, and tried every system by counterpoise and otherwise, it has been at last decided to renounce the hope of mechanically preserving the two carbon points at a progressive distance of separation; and attention has been turned to the means of rekindling the spark at every interruption of the light. To obtain this result, the theory has been borrowed from the illustrious Gerstedt, of employing induced currents, of which the learned Professor Wheatstone has made such important applications; and this by means of a reciprocating movement, imparted by an electro-magnet placed in the circuit of the battery. But these ingenious means have been tried by several eminent electricians, and are far from resolving the difficulty. I can imagine that, by an induced current, we can impart to the contact of an electro-magnet a reciprocating movement, which, at each interruption of the light, will approximate the carbon points. But the great difficulty is to regulate conveniently the course of this movement, which is always uniform. What will be the consequence if, by reason of the many circumstances I have pointed out, and which cannot be anticipated, the electrodes be brought too near one another, or be separated too far. In the first case, the light will be considerably diminished, and in the second it will be immediately extinguished. Furthermore, I shall never be convinced of the efficacy of the plan till I shall witness an experiment, in which the manipulator will consent to abandon to itself the apparatus, without aid or supervision, for a certain time. Until then, I will persist in doubting the possibility of appropriately regulating, by the aid of mechanical science, the self-acting movement for the approximation of the electrode-points. That is, at least, my opinion; and though I will not say it is the result of deep study, yet it arises from a long and persevering experience.

CARBON DISCS, as electrodes, placed at right angles, combined with an approximating movement.—In the course of 1845 a learned Englishman entertained the idea of an arrangement for producing continuity of the electric light, by the employment of five carbon discs, placed in a circle, and in a parallel plane on a metallic ring, by which, after each revolution of one of the discs, the spark was alternately and successively transferred from the first to the second, from the second to the third, and so on to the last. It is not for me to remark on this disposition, which, as it would appear, has not realised the essential condition desired—that of continuity—and which, consequently, could not receive any useful application. My arrangement consists in using only two rotary discs of the gas carbon, whose planes are placed in opposition at a right angle. These discs, after the completion of each revolution, are brought nearer to each other to an extent equal to that to which they have been separated by the combustion of a part of the carbon. The position of the discs at right angles is the cardinal point of importance, without which there can be no possibility of continuity. In my first attempts I disposed my two discs with their axes parallel and their planes vertical; but as soon as the light was produced between them, the spark, by an irregular fluctuating motion of lowering and raising, departed from the point where it ought to have been maintained, apparently seeking a part more favourable to the combustion of the carbon, or for the passage of the pyrogen across this matter—so that, in changing its distance and arriving at a point of separation between the curves where it could no longer be maintained, the light was immediately extinguished. At first I could not well account for this effect; but I was soon brought to observe that the carbon, in its incandescent state, was by no means so good a conductor as the other parts, and that to this cause must be attributed the transit of the electric current over a part of the segment of the curves of the discs. To remedy the inconvenience, I turned the discs at right angles, and thus the light was coerced to pass to the point where it should be maintained. The perfection of the light now only depended on the choice of the proper material, and I adopted the gas carbon of the retorts.

It is my belief, then, that of all the combinations for the purpose of maintaining the carbon electrodes for producing the light at a regular distance from each other, the mechanical arrangement which belongs to my invention is that which, in the actual state of our information on this head, approaches nearest to the solution sought, of continuity in the electric light. I say, which approaches the nearest, because it is impossible for a conscientious practitioner to affirm that there will not happen at unexpected epochs, and, by fortuitous circumstances, a period of interruption in the light produced and emitted by an agent as imponderable as capricious, subject itself to influences difficult to characterise. In like manner am I perfectly convinced that every electric light, produced by an energetic battery, is incapable of self-control, and that both one and the other must be carefully attended to—a care which may be intrusted to the manipulator charged with the preparation of the battery.

However, in respect to my system of production of the electric light, I am obliged to acknowledge that, in a series of experiments upon my battery by Professor Cooper, some remarkable effects of prolonged continuity were noticed; and I will add that, in the report which resulted, I have found the very favourable judgment pronounced by that eminent chemist on the advantages of my improvements, to be an ample recompense for my efforts.

M. Le Moll concludes with some observations on the application of his invention, for which we cannot afford space. He admits his inability to form a design to supersede the ordinary means of illumination at present in use for apartments and streets, and defines the uses of his apparatus as available for the following purposes:—For light-houses, and illuminating the approaches of sea ports; telegraphic signals on coasts; lights and signals aboard steamers and sailing vessels; for railway stations and trains; for grand scenic effects in theatres; public gardens, or other spacious localities, or avenues of considerable extent; for the reduction of metals by

"It is quite evident that M. Le Moll speaks without having made any experiment on the subject. It is not because his mechanical skill has failed in the desired object, as is apparent from his own contrivance, that amongst Englishmen, so eminently gifted with mechanical genius, will not be found one who may realise the necessary conditions. No one but a mechanic and chemist, who has watched the working of a machine, influenced as here suggested, can speak fairly of its capabilities."

Mr. Deffries said that, in making these remarks, he stood there on his own responsibility, by the invitation of the owners of that excellent institution. He had a character to lose, and was not the creature of any company or companies; and he was determined to carry out his object to the best of his ability, if means could be found to effect it—namely, to

lock every symptom, and restore health and vigour.—Sold by all druggists, and at Professor Holloway's establishment, 344, Strand, London.

EAST WIRRAL CROFTY.—At the meeting of adventurers on Tuesday, the 20th inst., the following statement of accounts was allowed:—To cost for Jan. and Feb., 1892, 2782. 11s. 11d.—By ore sold, Feb. 1st, (less dues, 1-40th, 764. 10s. 2d.), 2001. 12s. 7d.; by discount on Nov. and Dec. bills, 161. 7s.; income tax on dues, 11. 18s. 1d.—3019. 17s. 8d.—showing profit of 287. 18s. 9d.; add in hand to end of Dec., 1890, 1s. 6d.; leaves balance in hand, 2127. 15s. 1d.

LAWARTH.—A meeting of adventurers was held on Monday last, when the accounts for four months ending February were passed as follows, and a call of 12 per share was made, for liquidating the balance and the further prosecution of the mine:—To balance from last account, 802. 4s. 8d.; costs, 8s.; 369. 10s. 7d.—449. 10s. 10d.—By call made in Dec., 878. 1s. 0d. (less dues), 281. 9s. 1d.—406. 9s. 1d.—Balance against adventurers, 487. 5s. 9d.

EAST BIRCH TOR (TIN) MINING COMPANY.

At a general meeting of shareholders, held at the offices, Winchester-buildings, on Thursday, the 22d inst., it was resolved, that the report of the affairs of the company, dated the 20th of March, and now presented by the secretary, be received and adopted, and that this meeting do hereby recognise and confirm all that has been done in reference to this company, as stated in such report. It was also resolved, that the company be forthwith registered and incorporated, pursuant to the provisions of the Act, 7 and 8 Vic., c. 110, and that a Deed of Settlement be forthwith prepared.

A report was read from Capt. Thomas Moly, which stated that—

The engine-shaft is now down about 3 fms. under the adit level, and if the ground continues as favourable as it is at present, we shall be able to get our shaft down 10 fms. in five weeks from this time. The lode in the shaft is about 4 ft. wide, with at present about 4 ft. per fm. We have opened three places in the bottom of the adit, where we find good bunches of tin going down, which we expect to meet with in a short time after we get our shaft down to drive under them. We are now driving east and west on a lode to the north of the main course, which has never been taken any notice of before; each end is worth 3s. per fm.; the eastern end we are driving for 21. 5s. per fm.; the western end we are driving for 21. per fm. We have men stopping the back of the lode south of the main course; this lode is worth 3s. per fm., and the price we pay for stopping is 11. per fm.—these lodes are looking very promising to turn out a great quantity of tin. We have repaired our stamps, and got them both in first-rate order, and they are now constantly at work on our tin stuff, and we are making improvements in our stamping floor.

There is an object to which I wish to call your attention—that is, to clear the adit north of the north engine-shaft, and then drive on the cross-course to intersect the north lode, seeing that this is a lode of great promise, on which the Vindor parties have opened within the last three months, and found the lode to be worth from 15s. to 20s. per fm. This lode has never been opened upon in East Birch Tor Mine. There is another advantage of which we could avail ourselves, and that is, we have plenty of water to work any machinery required. This mine, if worked with spirit, will make one of the first-rate mines in a short time.

It was proposed by the directors to make a dividend in June next.

GREAT POLGOOTH MINING COMPANY.

A meeting of adventurers was held, at their London offices, 38, New Broad-street, on Monday, the 19th inst., when the finance committee laid their accounts for the last two months before the adventurers, showing—

Dr.—Paid in Feb. & March, cost of Dec. and Jan.—Wages and Incidentals.....	£390 14 7
Carriage and horse work.....	234 12 0
Coal.....	440 0 0
Materials and stores.....	620 0 0
Rates, rents, dues, &c.....	240 0 0
Total.....	£1684 8 9

Cr.—Tin sold in Feb. and March (113 tons 8 cwt. 2 qrs. 16 lbs.)..... £5577 12 5
Sundries..... 6 12 6
Total..... £5584 4 11
Showing profit of..... £298 16s. 2d.

A dividend of 3s. 10s. per share was declared, leaving 62. 16s. 2d. to credit of profit account for the May meeting, with assurance of continued progressive improvement in the mine.

TREVISKEY AND BARBER MINING COMPANY.

At the usual two-monthly meeting of adventurers, held at the mine, on the 19th inst., the accounts were examined and passed, showing—

TREVISKEY.—Amount of ore sold 30th November last, 1885. 7s. 9d.; tin, Jan. and Feb., 582. 15s. 8d. (less lords' dues, 169. 8s. 8d.)= 1822. 16s. 9d.; materials sold, 81. 17s. 6d.; barriers adventurers for materials, 82. 6s. 3d.= 1904. 0s. 8d.—By labour cost, Dec. and Jan., 744. 9s. 2d.; tribute, 570. 4s. 10d.; merchants' bills, 313. 10s. 10d.; Treviskey adventurers' engine cost, 202. 4s. 1d.; leaving profit of 525. 12s. 9d., from which deduct balance due to pursuer last account, 434. 7s. 8d., leaves a balance in favour of adventurers of 492. 5s. 1d.; from which deduct dividend, 47. per share, 480s.—leaving in hand, 121. 5s. 1d.—The following report was read to the meeting:—

March 19.—In Michael's shaft, sinking 3 fms. below the 260 fm. level, the lode is 2 ft. wide, containing stones of ore. In the 260 fm. level, driving 14 fms. east of Michael's shaft, the lode is 18 in. wide, and is at present unproductive. In the 148 fm. level, driving 43 fms. east of Michael's shaft, the lode is 20 in. wide, yielding 3 tons of ore per fm. In the 148 fm. level, driving 7 fms. below the 148 fm. level, the lode is 2 ft. wide, yielding 3 tons of ore per fm. In the 246 fm. level, driving in kilns 28 fms. east of the shaft, the lode is 20 in. wide, yielding 2 tons of ore per fm. At Williams' old dump we have intersected the north lode in the 40 fm. level—this lode is 18 in. wide, and at present is unproductive; we are driving the 40 ft. to cut the south lode. On Wednesday last, we sampled 416 tons of good ore, and hope to raise 360 tons for March and April.

BARBER.—Ores sold, Nov. 20, 91. 10s. 11d.; tin, 42. 12s. 3d. (less lords' dues 11. 0s. 2d.)= 131. 8s.—By labour cost, December and January, 231. 2s.; tribute, 21. 18s. 8d.; merchants' bills, 131. 13s. 3d.; Treviskey adventurers' materials, 92. 6s. 5d.—showing a loss of 36. 18s. 4d.; which, deducted from balance in favour last account, 93. 7s. 3d., leaves balance in hand, 56. 8s. 11d.

WHEAL ANDERTON MINING COMPANY.

At a meeting of adventurers, held at the Bedford Hotel, Tavistock, on Thursday, the 22d inst., the accounts having been examined and passed, it was resolved, that the reports of Capt. Carpenter and Paul, with an abstract of the accounts, be circulated among the shareholders. It was also resolved, that a negotiation be entered into with Mr. Williams, the lessor, with a view of obtaining from him such further extension of the term of lease as may be considered requisite, and he may be willing to grant; and that Capt. Toby and Carpenter be requested to confer with him on the subject.—Thanks were voted to the chairman and Capt. Carpenter.—The following reports were read:—

March 21.—Capt. Carpenter and myself have carefully examined the mine to-day. I find that since my last report the engine-shaft has been sunk to the 90 fm. level, and the plat and cross-cut to the lode completed, and the end driven east and west on the course of the lode. The 90 fm. level end east is in about 4 fathoms, and showing the lode a little disordered; nevertheless, it is of a promising character, and holding good work for tin; the 50 end west is about 4 fms. on a very large lode, about 9 feet wide, and has touched the same channel of ground, referred to in my last report (which inclines downwards towards the shaft); and here I can do nothing other than say, I believe this level is almost into a rich course of tin; the indications presented induce me to say, judging by the upper levels—the priam heads, by the cleavage of the strata, and the general composition of the lode, so that from this level I have no doubt great returns will be made, equal, if not superior, to the 80 fm. level. The 80 fm. level east is considerably extended through a large lode, and the backs working on tribute; in the present end, there is a slight ground; the 60 west is in disordered ground at present, but will soon touch the western shoot of tin which will be worked in the 70 fm. level; the back of this level has some good pitches, producing rich work for tin, with a good deal of ground left to work away. The 70 fm. level east is not driving at present, but a good deal of the lode in the back of this level would pay handsome profits, with water-power for stamping the ore; the 70 fm. level west has, at this time, a splendid lode in the new shoot of tin ground, and, to my mind, is likely to produce exceedingly well; the level is extended near 40 fms. west of engine-shaft, with several pitches working in the back of the same. The 60 fm. levels, east and west are not at present working, but for water stamps there is a great quantity of the lode in both levels, that would pay good profits, if examined; the increase of property on the mine, consisting of saw pump-work, iron-work, timber-work, and sundry other work, as well as the new burningshops erected since my last report, irrespective of sinking the engine-shaft 10 fms., driving the levels, timbering, &c., I think an addition is made of nearly 3000. to the property of the company, besides the outlay in procuring a good ventilation of the mine, and a good roadway to the different levels. The stock of ore is also much increased, and my estimate of the heaps underground, broken and at the surface, is the sum of 6000, at the present price of tin; so that I think the adventurers may congratulate themselves on having in their possession a valuable mine.

J. H. PATEL.

March 22.—In presenting you with this report, it affords me pleasure to be enabled to state, that our financial affairs are very much improved to what they were at our last meeting, as well as an improved prospect in the general appearance of the mine, coupled with the advanced price in the ore, sold on the 16th inst. I think there is a certainty of beneficial results, which would have accrued ere this, had not the depression in the metal market taken such effect. On the aggregate, the ore already sold, before the last parcel, did not realise so much as it would have done, taking a fair average of quantity, price, &c., to the amount of 1644. Making out the accounts to the end of December, 1891, were examined by the auditors chosen for that purpose, on the 20th, items specified in the cost-book of the mine will show a balance in favour of the adventurers, after the liabilities have been paid; however small it is, and appears, it is a pleasing coincidence to see the scale is turned; also, the plant is increased to the value of 3000. more than it was on the 22d November in new machinery, &c. Since the meeting, we have sunk the engine-shaft from the 80 to the 90 fm. level, and intersected the lode by opening shaft 12 ft. 9 in.—therefore, its inclination is so trifling, that it is scarcely perceptible. This incline I conceive to be much in favour of the future prosecution, as well as a good indication, in my opinion, of the lode being productive, as it clearly shows the component parts of the lode masters the stratum it passes through.

On cutting through the lode opposite the engine-shaft, we found its width, from the north to the south wall, to be 1 ft. with two well-defined walls. On extending the level west on its course 15 ft., the lode is increased to 9 ft. wide, composed of spar, priam, calcite, and spotted with tin; and, it is pretty evident, from the dip of the heads east, now presenting themselves in the end, we are very near the shoot of ore we have in the 60, a few fathoms west of this point, which we are daily expecting to come into contact with. We have driven east of engine-shaft 16 ft. on the lode, possessing the same characteristics as it does west, only we have had more tin; this, I presume, is in consequence of a small stream crossing the lode, merely dividing it, and has invariably produced good stones of ore close by in all upper levels. We have driven the tin level east on a large lode, to the extent of 10 fms. The backs are being taken down at 6d. and 7s. 12. also driven north-east 14 fms. through a confused piece of ground, but at present end is in a more settled state, and, I think, securing the west part of the lode, whereby it will give us 90 fms. of back on unexplored ground. I suspended the 90 fm. level a few weeks since, supposing I might obtain the driving an intermediate level from the 90 to the

70, but circumstances have induced me to resume the opening the 80 further west. From a second discovery in the 70, some 6 or 7 fms. a head, where the lode is large, 9 ft. wide, the part that carries the tin is about 2 ft. big with other small branches throughout. This is a very promising feature in our prospect, as it is going to hill, and the lode in the 40 fm. level above this, possesses every indication of being productive at deeper levels. The back of this level, from the present appearance, can be taken down at 9s. 12. The various pitches varying from 8s. (only one in the back of the 70 at 8s.) in the 12, are producing fair proportions of ore, as to well reward the labourers for the spirited manner in which they are working; and I must conclude by asserting I never saw the prospects so good as they now are, whatever may be the future results.—J. CARPENTER.

MONTREAL MINING COMPANY.

The third annual general meeting of stockholders was held at Montreal on the 21st February last, when the directors' report submitted stated that the convulsed state of Europe, and the extensive decline in the copper trade, had been, in one sense, advantageous to mining in Canada, as causing men to emigrate there, who, could they have got a living in England, never would have gone. This accession of labour had reduced the enormous wages which had been paid since the discovery of the mineral regions of Western Canada. It was also satisfactory to state that, even at the low price of copper, the ores from the Bruce Mines, belonging to the company, from their superior quality, would yield a handsome return; and it was fully expected that the Canadian trade would participate in the improvement for some weeks happily visible here. The operations of the company during the season had been confined to the Bruce Mines; a steam-engine, for crushing, cleaning ore, and pumping, had been received from Hayle, in Cornwall, in October last—the cost of which, from the depressed state of trade in England, had been less than usually charged. The cost, however, formed a large item in the year's disbursement, but as it could do more work than the company's force would require, it could be employed in dressing ore for other companies in the vicinity, which would be mutually advantageous.

From the contradictory nature of the reports of Capt. Roberts and Mr. Campbell, the directors had requested a Government survey, and Mr. Logan, the provincial geologist, was dispatched for the purpose; he was accompanied by the president and secretary, who stayed at the mine a week, when, Captain Roberts' previous reports having been hasty and unguarded, he was given notice that his services would not be further required, and he left their service in October last. There was sufficient ore on the surface to yield, when dressed, 1600 tons, of a product of 20 per cent.; a parcel of 170 tons, averaging 18 per cent., had been sold, and had given great satisfaction; and a parcel, shipped late in 1887, was of 224 per cent. product. These two parcels were sold in Baltimore, and realised 1800s., the freight and charges having been 1410s. out of the amount they were sold for 2916s. The quantity of ore expected to be shipped during the ensuing summer was about 400 tons per month. The directors had long had under consideration the establishment of smelting-works at the mines; and having ascertained that an experiment, sufficiently large for their works, could be tried for \$4000 or \$5000, while the saving in freight alone would be twice that sum during the summer, they had given instructions to erect the necessary furnaces, and had engaged a smelter. The population on the location numbers 295 persons—177 males, 50 females, and 60 children; 166 males and 2 females are employed by the company. The whole sums due for the property had been paid to the Government, and the patent was shortly expected. From the statement of accounts, it appeared that the total receipts, including balance of last account, 9264. 4. 11d., calls, sale of copper ore, &c., was 87,570s.; and outlay, and the balance in Bank of British North America and in hand, was 17,471. 4s. 7d.

Mr. Logan states, in his report above-mentioned, that the mining location, called Cuthbertson, of 6400 acres on which the Bruce Mines are situated, displays a collection of mineral veins which have been more thoroughly tested by works of exploration than any other on Lake Huron. The surface rock is greenstone, and the workings in mere drill holes have given in No. 10 stop a product of 8.40 per cent.; descending Harris's shaft, at the top, the lode was 3 ft. 5 in. wide, and yielded 10.24 per cent.; middle, 2 ft. 8 in., 9.28 per cent.; bottom, 5 feet wide, 7.68 per cent.; 8 fms. eastward of shaft, 8.72 per cent.; 10 fms. west, 7.80 per cent. These per centages are as taken from the vein; three parcels, when properly dressed and picked, produced 73 tons, with an average product of 22.59, and obtained 167. 18s. 10d. per ton. The general average is about equal to that of Cornish ores. The report was perfectly satisfactory, great activity prevailed at the mines, a wharf had been constructed on the lake, secure from all winds, and everything was progressing in a favourable manner.

EAST OF SCOTLAND MALLEABLE IRON COMPANY.—A public meeting of shareholders was held in the Town House, Dunfermline, on Thursday fortnight. JOHN McDONALD, Esq., occupied the chair.—The proceedings were of a very tumultuous nature, and a report from Messrs. Christie and Fraser, two of the committee appointed at last meeting, was laid before the meeting, and Mr. Christie stated that three of the members present had framed a separate report, which Mr. Christie said he had declined to subscribe. This report was afterwards read by Mr. Buego, and after a lengthened discussion, it was moved by Mr. Thomas Russell, and seconded by Mr. F. H. Cadel, that the works be carried on for three months, on the understanding that monthly accounts of the profit and loss be rendered by the managers; and that, in the event of a loss taking place, the directors be empowered to call a general meeting to consider the affairs of the company. An amendment was moved by Mr. Whitelaw, and seconded by Mr. Angus, to the effect that the meeting instruct the directors to forfeit or purchase, at a nominal sum, all shares at the request of those shareholders who have paid 5s. on each share, and to endeavour to raise funds to carry on the company for three months to come, and at the expiry of that period to call a meeting of the shareholders to consider the state of the company's affairs, and to take any measures deemed necessary in the circumstances. When the vote was taken there appeared, for Mr. Russell's motion, 119; and for Mr. Whitelaw's amendment, 135; the amendment was consequently carried. The chairman protested, on the ground that the resolution was illegal. To this protest Messrs. Russell, Savers, and Melville adhered. The chairman and directors afterwards tendered their resignation, but, at the request of the meeting, consented to act till the adjourned meeting.

QUEBEC MINING COMPANY.—Captain O. Matthews, the agent to this company at Mica Bay, has transmitted a report of his late proceedings, and of the prospects at his station. He states that he had 1500 tons of ore on the ground, and when the tram-road was completed, he could haul sufficient stuff to keep the stamps going day and night, with half the men now employed. By the 1st of August he expects to ship for the United States 100 tons of crushed ore, expected to yield 2500s. Le Mesurier's Mine was down 30 ft., and he expected to commence early in January to cross-cut to the lode, which he expected to reach with four miners in March, and he expects, during the succeeding season, to raise from 1000 to 20000 worth of ore, at a trifling expense; the stuff is so concentrated that it will not require crushing, but will be shipped as it comes from the mine. The erection of a saw-mill was progressing rapidly and satisfactorily, and the population had reached 129 persons.

GUADALCANAL SILVER MINING ASSOCIATION.—The specimens of silver from these mines have been assayed by Messrs. P. Johnson and Co., of Hatton-garden, and the following are the results:—

	Silver per ton of 20 cwt.
No. 1.—From the 30 fathom level, Poco Rico.....	4950 ounces.
No. 2.—Do ditto.....	4569 "
No. 10.—Back of the 2nd fathom level.....	140 "
No. 12.—A piece of native antimony, taken from an old barrow.....	10 "

GOLD IN FRANCE.—In carrying on works for improving the bed of the river at Strasbourg, the engineers of the Ponts et Chaussées, a few days ago, turned up some stones containing marks of metal. An examination having been made by M. Kopp, chemical professor in the Academy, it was found that a piece of freestone contained large incrustation of a yellow, ductile metal, which turned out to be massive gold, with a little silver. And some other metal, probably iron or copper. The gold was not in thin flakes, like those which gold-seekers find in the sand of the Rhine, but in dense massive bits, and in large quantities in proportion to the quartz.

THE RAILWAY CASUALTY COMPENSATION BILL.—This new feature in the business of life insurance came on for further consideration before the Parliamentary Committee, yesterday.—Mr. Benjamin Hothel, Q.C., Mr. Webster, and Messrs. Holt and Austin, appearing for the promoters, who intimated to the committee that they had, in accordance with the recommendation of the Stamp-office, and the resolutions of the House, introduced provisions into their amended bill, to the effect that insurance tickets should be exempt from stamp duty—a per centage duty of 5s. for every 1000, received to be paid in lieu. The promoters explained that the popular object of the measure was the application of the principle of life insurance to single journeys on railways, by a payment, on the principle of the penny postage, of a sum adapted to each class of passenger, according to the time and consideration in the event of injury by accident, whether arising from negligence or not. Thus, the payment of 5s., in addition to a fare by a first-class passenger, will be the premium for 10000; of 2s., by a second-class passenger, for 3000; and of a penny, by a third-class passenger, the premium for 3000;—it being the intention the promoters an accident on any of the railways occurs, to send an agent with money to the spot to relieve passengers "insured" by an immediate advance of cash. The tickets of insurance, which will be the insurance policy in another form, are to be issued by the railway clerks at every station, and the company's agents. Considerable discussion ensued upon the framing and consideration of the clauses, owing to difficulties as to identity, which it was apprehended would arise from the circumstances of the tickets not being issued in the name of the parties to whom they were granted, should fraud upon the company be attempted by their transfer to another party, and the committee appeared to be of opinion that this would result in some future legal difficulty. Ultimately the principle of the bill was affirmed, and it is probable declared to be proved—amendments being required in the clauses that relate to the notice to be given to the company by the insured.

GAS SUPPLEMENT.—At a late meeting of the Ashmolean Society, Dr. Danby exhibited an apparatus, that produces a superior light to gas or oil, by passing a stream of atmospheric air through an inflammable liquid, of a volatile nature, such as ether or liquor condensé in a proportion of oil gas.

TO COLLIERY PROPRIETORS.

STRUVE'S PATENT MINING VENTILATOR.
Quantity of air passed through a Mine almost unlimited, depending on size of apparatus. No injury to pumps, tubbing, chains, ropes, or pit-work.
Gases kept clear.
Not influenced by barometrical and thermometrical changes in the atmosphere, or by wind.

Current of air undervailing.
LICENSEES will be GRANTED on application to
MR. WILLIAM PRICE STRUVE, C.E., Swansea.
The ventilator has been erected at the Eaglesbush Colliery, near Neath, and is perfectly efficient, and may be viewed on application to the proprietors, Messrs. Pennrose and Evans, Neath.

CAMBORNE CONSOLS MINING COMPANY.—NOTICE

OF CALL.—Notice is hereby given, that the directors have this day resolved that the subscribers, or shareholders, in this company, and they are hereby required to pay, on or before the 21st day of April next, into the bank of Messrs. F. and Co., 189, Fleet-street, London, a CALL OF ONE POUND upon each and every share held by them in this company; and that, pursuant to Art. 116 of the Company's Deed of Settlement, all and every share, or shares, upon which the said call of £1 per share shall not be paid within 14 days after becoming due, will be subject to absolute forfeiture.
No payment on account of the aforesaid call will be received by the company's bankers without a special order, which may be obtained on application to the secretary, at the company's offices, 29, Foultry, with which the present certificates must be deposited, to be exchanged for share certificates of 25s. paid.

By order of the board of directors,
TUCKER & STEVENSON,
Solicitors to the Camborne Consols Mining Company.
London, this 19th day of March, 1892.

RIVER FRONTAGE, SWANSEA.—TO BE LET, for such

term of years as may be agreed upon, SEVERAL ACRES OF GROUND, lying along the navigable part of the SWANSEA RIVER, in the immediate vicinity of the largest copper works, and suitable for smelting, or other manufacturing establishments. The land is close to the South Wales Railway, and possesses great facilities for delivery of coal by the line, as well as by other modes of transit.
Apply to Mr. B. Daniel, surveyor, No. 6, Garden-street, Swansea.

SUNDERLAND DOCK COMPANY.—TIDAL HARBOUR

CONTRACT.—THE DIRECTORS OF THE SUNDERLAND DOCK COMPANY are prepared to RECEIVE TENDERS for the EXECUTION OF THE WORKS—comprising the EXCAVATION AND MASONRY OF THE TIDAL HARBOUR, or EXTENSION TO THE DOCK, from the River Wear.

Plans, sections, and specification of the works, will be ready for inspection of contractors, at the Dock Office, 12, Sandhill, Sunderland, on and after Friday, the 23d inst. Sealed tenders, addressed to the directors, are requested to be delivered at the Dock Office, aforesaid, on Thursday, the 7th of April next, not later than Eleven o'clock in the forenoon. Security will be required for the due performance of the contract. The directors do not bind themselves to accept the lowest tender; and, further, reserve the power of rejecting all tenders, if the same be not satisfactory.
Sunderland Dock Office, March 21, 1892.
GEORGE HUDSON, Chairman.

A FIRST-RATE LOCOMOTIVE ENGINE is now being

MADE at SOHO WORKS, SHILDON, near DARLINGTON.—In the construction of this engine, Mr. Timothy Hockworth has made durability and light consumption of fuel his study; and it is generally believed by competent judges it will be the most economical that has ever been made. The character of the man goes far to prove that the public may justly expect something out of the ordinary way, as an inexperienced hand had more experience in the construction of locomotive engines than any man living. Soho Works, New Shildon, March 22, 1892.

THE COPPER TRADE—FOREIGN ORES.

The last sale of copper ores at Swansea, by public ticketing, for the current quarter, having taken place on Thursday last, we take the earliest opportunity of presenting our readers with the usual summary. The total quantity sold in the quarter has been 7893 tons, producing 97,481. 5s. 6d., being a decrease of 4696 tons, and 70,898s., in comparison with the quarter ending 31st Dec. last; and of 2470 tons, and 51,041s., with that of the corresponding quarter of 1891; the former having been 12,589 tons, and 168,377s., and the latter 10,363 tons, and 148,502s. They were purchased as follows:—

	Tons.	Amount.
English Copper Company.....	478	£ 5,473 8 10
Fraser and Co.....	215	2,576 8 6
Greenland and Sons.....	1189	11,369 9 0
Sims, Williams, and Co.....	1093	12,337 5 6
Vivian and Sons.....	3040	33,576 19 4
Williams, Foster, and Co.....	2174	27,081 4 0
Mines Royal.....	80	1,693 12 10
Schneider and Co.....	643	9,580 3 0
Smith.....	40	583 0 0
Total.....	Tons 7903	£97,481 5 6

Of this entire quantity of ores sold at the Swansea ticketings within the quarter, the amount of those from foreign mines have been as follows:—

	Tons.	Amount.
Australia.....	593	£14,027 15 0
Cuba.....	4605	56,909 10 6
Cuba.....	478	6,911 2 0
Copiapue.....	278	5,807 12 0
Total.....	Tons 5934	£83,654 16 6

This shows a decrease in the sale of foreign ores of 4509 tons, and 62,831s., as compared with the previous quarter, which was 10,463 tons, and 148,180s., and from that of the corresponding quarter of 1891, of 1506 tons, and 33,003s., the latter having been 7460 tons, and 128,352s. There is, we are sorry to find, a sad falling off in the sale of ores, the produce of Ireland—not giving any very cheering prospects of the mining interests of that unfortunate country—they having only been 1627 tons, producing 11,414s., showing a decrease over the quarter ended 31st Dec. of 1438 tons, and 7620s., the latter being 3063 tons, and 19,034s., and with the corresponding quarter of 1891, which was 2619 tons, and 18,580s., of 992 tons, and 7166s.

GRATIFYING INCREASE IN THE COAL EXPORTS.

The official tables furnish the agreeable evidence that the declared value of the exports of coal, during the year 1891, amounted to 1,066,856s., being an increase of upwards of 18 per cent. upon the exports of 1887. For the information of our readers, we are enabled, from documents in our possession, to give the table of the declared values of coal exports for a number of years past:—

	1884	1885	1886	1887	1888	1889	1890	1891
Value.....	£230,746	344,598	332,861	431,885	451,300	542,609	576,519	1,066,856
1884.....	1847	1847	1847	1847	1847	1847	1847	1847

The ad valorem duty of 10s. per cent. on the export of coal was repealed in 1842, and the duty of 2s. per ton by British and reciprocity-qualified vessels, and 4s. per ton by unqualified vessels, was abrogated in 1845. The beneficial effects of these two measures of coal-duty abolition, are made as apparent by the table, that we refrain from even a word of comment.—*Colliery Observer.*

DISCOVERY OF A NEW COAL MINE IN NEW SOUTH WALES.—THE

Australian Agricultural Company have just received intelligence of the discovery of a new seam of coal of great value on the company's land at Newmarket, New South Wales. This discovery is the more valuable, as it is apparently unconnected with any other seam of coal heretofore worked; it is almost at the opposite extremity of the company's land to the present coal workings, and is only about 150 feet from the surface; it is estimated that it is one square mile there ought to be upwards of 9,000,000 tons of coal, one cubic yard having weighed 19 cwt. 16 lb.

COAL IN LABUAN.—The last advices announce that the coal mine was in full operation. In addition to 1000 tons being stocked, the mine yielded from 200 to 300 monthly.

CONTRACT FOR WHEAT COALS.—The Lords Commissioners of the Admiralty have given notice that, on Thursday, the 29th inst., they will receive contracts for the delivery at Deptford of 1200 tons of hand-picked Welsh coals; one-third to be delivered May 1, one-third by July 31, and the remainder by Sept. 30. Contracts will also be entered into for the several marine barracks at Chatham, Portsmouth, and Plymouth, for about 2500 tons.

PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.—The directors have decided to appropriate the profits of the ships *Vesta*, *Ganges*, and *Shamley*, which they have recently sold at prices exceeding the cost, in the shape of a bonus to the proprietors, at the rate of 12 per share of 80s. This is over and above the ordinary dividend declared at the last half-yearly meeting, making an addition of 2 per cent. to the last year's dividend, which was at the rate of 8 per cent. per annum.

THAMES TUNNEL COMPANY

The number of passengers who passed through the Tunnel in the week ending March 17, was—No. of passengers, 16,634.—Amount of money, 269 £s. 3d.

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars.....	per oz. £2 17 9 1/2	New dollars.....	per oz. 20
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JOINT-STOCK BANKS

Shares.	Companies.	Paid.	Div. p. cent.	Frags.
22,500	Australasian	22 1/2	5	22 1/2
20,000	British North American	50	5	50
20,000	Colonial	25	5	19 1/2
	— Commercial of London —	20	5	19
4,000	Ionian State	35	5	24
9,000	London and Lancashire	10	5	14
20,000	London and Westminster	10	5	14
10,000	National Provincial of England	35	5	34 1/2
20,000	National of Ireland	22 1/2	5	19
20,000	Provincial of Ireland	25	5	40 1/2
4,000	— Rio de Janeiro —	10	5	15
20,000	South Australia	22 1/2	5	23 1/2
10,000	— Ditto — New	22 1/2	5	23 1/2
60,000	Union of London	16	5	10 1/2

1940

GUTTA PERCHA COMPANY.

The introduction of the singular natural production, gutta percha, some few years since, to various artistic purposes, has given us a material, which for ornamental design in picture frames, upholstery, cabinet work, and internal decoration, is fast superseding every other less pliable material. Tough and hard as wood when cold, this substance is sufficiently obedient, when heated to about 200° Fahr., to be moulded into any fashion we desire, and to take the most delicate impressions and deep under-cuttings of the most elaborate carvings. The company by whose enterprise this material has been so extensively introduced have left no means untried, and spared no expense, to produce a perfect substitute, in numerous instances, for wood carving, porcelain work, metal and other substances, in many cases highly superior; and we have just received a work, consisting of six plates, entitled *The Gutta Percha Company's Pattern Book*, being fac-similes of ornaments for picture frames, upholstery, &c. They are printed from lithographic drawings, in beautiful and elaborate designs, and consist of the royal coat of arms, in three different styles; varied and splendid scrolls of the vine, leaf, stalk, and grapes; bacchi and bachelanti; heads, cupids, and boys, under various circumstances; Faith, Charity, fonts, cherubs, &c. The frontispiece consists of an elegantly designed border, formed of the stems, leaves, flowers, and fruit of the tree from which gutta percha is obtained. The whole is intended for the use of the dealers in the company's goods, who will thus be enabled to supply the various ornamental trades and professions with articles chosen from the patterns; and we understand it is intended to publish a variety of new designs in succession, the originals of which the company will supply at a price to ensure their general adoption.

NOTICES TO CORRESPONDENTS.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

GOLD EXPERIMENTS.—We have a note for "N." whose communication appeared on the 17th inst. We have mislaid his address.

THE PATENT GAS JOINT.—We have received, from Mr. Thomas Richards, Gas Officer, Worcester, some particulars of a new patent gas joint, introduced for the purpose of facilitating the connecting and disconnecting of gas with a moveable pillar, or other ornamental fittings. There is no screwing or unscrewing, but simply pressing a cover into the end of the tube, in which is a spiral spring, when the gas will flow into the required burner. We cannot exactly comprehend its action, having received no references to the letters on the diagram, but should be glad of further particulars.

DINAS MOWDIT, MERRIONTHORPE.—We have received a ridiculous communication, without name, initial, or date, purporting to be from this place, respecting some mineral discoveries in the neighbourhood. It is, of course, totally inadmissible in our columns; and we only wonder at any one, in his senses, penning such nonsense, and more so that he should expect us to publish it.

A. D. (Commercial-road).—There are many articles of manufacture, both in cast and wrought-iron, in which the original cost of the iron is completely lost sight of, the increased value being made up entirely by the labour bestowed upon them: thus, cast-iron of the value of 11. becomes, converted into ordinary masonry, 4s.; large ornamental work, 48s.; buckles, Berlin castings, &c., 660s.; neck chains, 1880s.; shirt buttons, 5880s.; 12. worth of wrought-iron is converted into—horse shoes, 27. 10s.; table knives, 36s.; needles, 71s.; pen-knife blades, 657s.; polished buckles and buttons, 897s.; balance springs of watches, 50,000s.

X. Y. Z. (Dublin).—The Knockmahon, Kildare, Bonmahon, and Ballinastala Mines, in the Waterford district, are, we believe, worked by the Mining Company of Ireland.

M. N. (Battersea).—The Pitt diamond was bought, by Mr. Pitt's grandfather, for 20,000l., and sold by him to the regent of France for 120,000l. With a portion of the profit he purchased Old Sarum, and thus enriched his descendants.

A Young Jeweller (Bond-street).—The hardness of precious stones is in the following order:—diamond, ruby, sapphire, topaz, hyacinth, emerald, garnet, amethyst, agate, turquoise, and opal.

Chemists (Kenington).—The best mineral from which to obtain oxygen is the black oxide of manganese. It contains one-half its quantity of pure oxygen, and will give out a considerable portion by placing it in a retort subject to a bright red heat.

Railway Speculator (Old Jewry).—We can only account for the great difference in price between the Great Western shares and those of the London and North-Western, as stated in our last, by the many awkward guarantees the former company are liable to, and the greater expense of wear and tear and permanent way on broad gauge lines.

An Old Subscriber (London).—On the Cost-book System, it is the duty of the pursuer to call the two-monthly meetings, and should he neglect to do so, he is responsible for such neglect. The principle of the system is that all the shareholders act together for the joint benefit; and if there are dissentients to the general management approved of by the majority, they had better at once resign their interest, as squabbling among shareholders has too often brought what would have been a flourishing concern to the ground. We refer our correspondent to a few leading remarks in the Journal of the 10th March inst.

Electro Glider (Rahere-street).—Nitric acid and aqua fortis are synonymous; it consists of 100 parts by volume of nitrogen, and 250 oxygen. It is a colourless liquor, has a specific gravity of 1.51, boils at 48° Fahr., and freezes at 50°. If 58 parts of nitric acid and 42 of water be mixed, instead of 100, the volume is only 99.65, and the temperature rises from 60° to 140°. A flash of lightning, by decomposing a portion of atmospheric air, and re-arranging the volumes of oxygen and nitrogen, often produces nitric acid. As it loses its oxygen, it changes colour, first to yellow, through several shades to greyish blue.

Old Lynx-eyed Miner.—We have received another long and somewhat rambling communication from our lynx-eyed correspondent, which, however, we must decline, for the reasons before stated. He finds it very amusing, over his glass of ale, to take up a paper, and have a glance at the week's number, where shares in this and that mine are described as sought after at advanced prices, when no captain's report appears. He says, we stated last week that a great many shares in Wheal Seton had changed hands, and it now turns out that there is a great falling off in the produce, which brought these shares into the market. Our correspondent must, indeed, have lynx-eyes, if he can see such a statement, for we have not mentioned Wheal Seton for three weeks, and then not to say, "a great many shares had changed hands," only that they had been inquired for. Neither have we noted Wheal Fanny for some time. It would appear that the potency of the ale overcomes the visionary powers of his lynx-like optics; and although he can probably see a falcon in the ground on some occasions, it is quite clear he cannot see correctly into our columns; his remarks, in general, are unworthy of notice.

F. G. (Portland-street, Southampton).—The last information we have received of the progress of White's patent hydro-carbon gas, was the report of a lecture delivered by the patentee, at the Palace Hotel, Manchester, on the 5th January last, Mr. Fairbairn presiding, and which appeared in our columns on the following 13th, when he produced a brilliant gas in the room, from a small model apparatus, and stated that it was being very generally adopted in the towns and manufactories of Lancashire. An apparatus for producing 1000 cubic feet in 10 hours occupies a space of only 5 feet square, and can be erected for 40s. or 50s. A small one, for domestic purposes, will cost 10s., and the gas can be produced for 1s. per 1000 cubic feet. We have not heard of its explosion from the Polytechnic Institution. In a letter from Mr. White, published in last week's Journal, he also states that he is going on successfully, and has entered into a contract with Mr. Harvey, of Finsbury-street, Westminster, as far as regards the supply of the apparatus in Middlesex and Surrey.

Leopold (Whitehaven).—Mr. J. Mitchell, 23, Hawley-road, Kentish-town, London. Mr. Baverstock (Dean-street, Soho) considers the plan of Mr. Morley, for lighting mines, described in last week's Journal, the best hitherto published. He states, "The idea of supplying the lamp from a pure source, instead of from the circumambient air, is excellent and very feasible; they could be laid on from the pit's mouth, the branches terminating with flexible tubes, and be supplied by a small pump, with a little power, from the engine. It being generally estimated that an individual, or a candle, consume the oxygen of one cubic foot of air per minute, and as it is stated in your last that a 5-horse engine gives 14,000 cubic feet of air per minute, or take it at 2000 feet per horse per minute, one horse power would supply 500 men and 500 lights with pure air. The jet should be so arranged, that it could be laid down, stood on the floor, hung up, or even attached to the person by a belt. It should have an ivory mouth-piece, and would not in the least interfere with any other system of ventilation, which could be still carried on as before."

W. G. (Durham) informs us, that a safety-lamp, on the principle recommended by Mr. Morley (Ryde, Isle of Wight) in our last number, was patented by Messrs. Clarke and Varley, about four years since. Our correspondent is of opinion that there would be found much utility in providing that portion of the tube from accident which must necessarily lie on the ground and loose, to enable the collier to move the light about the face of his work, if he could not carry it about the pit.

W. Jenkins (Swansea).—The London offices of the Lloethen Silver-Lead Mines, in Switzerland, are at 37, Southampton-street, Strand; or application may be made to Mr. G. W. Bianchi, 3, Albion-place, Blackfriars-road, London.

W. G. (Raven Hill).—We do not know the exact variation of the magnetic needle for 1845; it is now, as we have before stated, 24 deg. west; in 1821 it was 24 deg. 11 min. 18 sec. west, having decreased 11 min. 18 sec. in 28 years, or about 24 sec. per annum; which, if the annual decrease is regular, would give, for 1845, something very near 24 deg. 1 min. 36 sec.

J. M. (Hull).—The basis of Ramson's artificial stone is silica, converted into a viscid liquid, by a peculiar menstruum. The several substances required to form the stone to be imitated, whether oil, sandstone, conglomerates, &c., ascertained by previous analysis, are then mixed up with the silica into a stiff clay, from which the object required is moulded, and afterwards baked in a kiln. The specimens are very beautiful. J. M. will send a very interesting description in the last page of our Journal for October 23, 1847. A full description of the process for obtaining the hydrogen from water, and carbonising it for the purposes of artificial illumination, will be found in a report of a lecture by Dr. Ryan, at the Polytechnic Institution, in the Mining Journal for September 2, 1848.

An Old Subscriber (Falmouth).—Dipyr is only found in the Western Pyrenees, imbedded in soft slate; it is so called from its phosphorescent and incandescent very much before the blow-pipe, and phosphorises at the same time.

Biuelter (Swansea).—The composition of Britannia metal is in the following proportions:—34 cwt. of best block tin, 25 lbs. martell regulus of antimony, 8 lbs. of copper, and 8 lbs. of brass.

G. B. C. (Adolphus-terrace).—According to the returns made to Parliament, the number of passengers who travelled by the different lines of railway, from the 1st of July to the 31st of December, 1846, were 31,924,941; out of these 112 were killed, and 129 injured.

Chemist (Liverpool).—The discovery of gold alluded to by "B. C. D." and published in your Journal of the 10th inst., is by no means a singular circumstance. Becher obtained gold from vegetables, M. le Sage from rotted manure, garden mould, and unincubated earth, and Berthollet from ashes. In fact, all mineralogists agree that it is more extensively diffused, though in exceedingly small quantities, than any other metal, except iron.

J. D. A. (We should feel obliged for the promised communication.)

The letters of Mr. J. J. Lake, on Improvements in Electric Telegraphs, and Professor Russell, on Borey Light, shall appear in our next Journal; also the continuation of the series of papers, by Mr. Matthias Dunn, on the Winning and Working of Collieries.

"A Keewick Shareholder." (City).—Cobalt bloom (arsenate of cobalt) is generally of a crimson colour; sometimes it occurs of a white or greyish white and green cast. Before the blow-pipe it shows itself with borax, as a blue-coloured glass.

It is particularly requested that all communications may be addressed—
To the Editor,
Mining Journal Office,
26, Fleet-street, London.
And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, MARCH 24, 1849.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

It is impossible to be always announcing improvements in the trading and commercial interests of the kingdom, but we are happy to have it in our power to say that the general tone of those interests has been well and satisfactorily sustained. In that particular branch of them with which this Journal is most intimately connected, it is gratifying to state that things continue in a firm and hopeful condition. The importation of foreign ores has been, for some time past, declining, and the home market has been, for the most part, supplied from home sources, so that, with a less amount of competition generally, prices have moderately gone up. We expect this upward course will continue, and that when the causes, both of a fiscal as well as of a political nature, which have recently disturbed the markets, shall have subsided, that as to all mining produce, we shall have a steady and a remunerative trade. Consols have also, within the last few weeks, declined a little; our readers know the effect of this. Whatever lowers the funds raises the price of money, and when money is dear, or scarce, it will affect the value of all transferable property. Among such descriptions of property nothing is more sensitive—nothing more delicate in reflecting the pressure and circumstances of the money market—than shares in mines and railways. Notwithstanding, mining shares have, almost without exception, kept the quotations they had attained, and the strong probability is, that this kind of investment will, in the result, be found among the most remunerative of any that can be pointed out. We so reason, we thus conclude, no less with a view to the intimations now before us of the future, than to the history of the quarter now nearly run out. Our opinion being, that mining produce, as a whole, and mining shares, will be found, throughout the quarter upon which we shall shortly enter, an improving and ascending property.

It will be gratifying to every friend of humanity to learn, that at length there appears some prospect of the most complete success attending the persevering efforts of the scientific friends of humanity, to accomplish the thorough ventilation of our collieries, and thus place the men in comparative safety, while pursuing their toilsome duties in the dreary caverns of the mine—at least, from that most to be dreaded scourge, the explosion of fire-damp. The numerous catastrophes which have lately so rapidly succeeded each other, and with such unusual fatality as regards numbers, has at length aroused the public mind, not, we hope, immediately to slumber again, but to real action, from which we anticipate the happiest results. Among the several mechanical appliances which have, within the last few months, been brought experimentally into practice, either in aid of, or entirely superseding the furnace, and which appear to be, more or less, efficient for causing a sufficient current of air through the most extensive workings, Mr. Gurney's jets of high-pressure steam appear at present likely to take the lead.

In another column will be found the report of a meeting, held on Tuesday last, at the works of Mr. Coulthard at Gateshead, at which Mr. Gurney exhibited his apparatus; with many interesting experiments, before a scientific and highly respectable audience, among whom were the Mayor, T. E. Forster, N. Wood, and E. Potter, Esqs., colliery viewers, with many other gentlemen interested in mines, in the Tyne and Wear districts. The lucid and perfect manner in which the experiments were conducted, evinced the practical efficiency of the scheme in producing currents of air, unlimited in quantity and velocity, and they were received by the audience with delight and astonishment. On their conclusion, the Mayor proposed a vote of thanks to Mr. Gurney, "for the clear and able manner in which he had displayed the merits of his invention, and for his unwearied exertions, for so many years, in promoting an object so devoutly to be wished for," which was seconded and carried with acclamation. Mr. Gurney in reply said, that whatever credit the public might consider he deserved, for his humble exertions in advocating the best means for ventilating mines, not less was due to Mr. T. E. Forster, for the earnest and ingenious manner in which he had carried out, in practice, the principle they had on that occasion explained to them. Mr. Forster informed the audience that he hoped to be prepared, by Wednesday next, at Seaton Delaval Colliery, to put into operation the jets in his other upcast shaft, which he was arranging to be near the surface, and he kindly invited all then present to witness and examine the results, and judge for themselves. It will be remembered, that at this colliery the principle is, and has been, some time in operation, with the most beneficial results; and in proof of its complete success, and that by its application the furnace may be completely dispensed with, we are informed that previous to its erection the quantity of air passing through the workings was 53,000 cubic feet per minute, and with the jets 79,000. With the furnace, in addition to the jets, the latter amount was not exceeded, a fact of the most important nature, and one deserving of due consideration. We know not how "Carbon," whose communication, condemning the system, appeared in our last Number, and many other dissentients, who have hobbies of their own, will reconcile their statements with these publicly acknowledged facts; but we congratulate the working miner that the dawn of a brighter day than he has yet witnessed is breaking in upon him, that practical science and human feelings have jointly been at work for the amelioration of his condition, and that on undeniable conviction being brought home to the public, that any of these newly devised plans are completely successful in inducing thorough ventilation under all circumstances, not a coal mine in the kingdom, but must apply them to its use; and we shall be much gratified in recording similar happy results from experiments with other apparatus.

The gas question continues, not to agitate, but to make its silent and steady progress in the City of London. We have ourselves, and so has, we believe, the press in general, rested the subject on two footings—namely, the sanitary and the economical. We know, for it has been proved by the most irrefragable evidence, that the indoor atmosphere of London is poisoned the six working evenings of the week, by the unconsumed currents of coal gas which contaminate the air of our shops and warehouses. There is no saying how much of the sickness, and of the unsound health of the metropolis, is attributable to the gaseous and vitiated air, in which thousands of our population are obliged to pass so large a portion of their nights and days. The Registrar-General will, perhaps, when he sets himself to trace the prevailing diseases of the town up to their final causes, be able to say, approximately, what portion of them have had their origin in that impure and heavy state of the atmosphere induced by coal-gas burning and coal-gas waste.

The money, the economical aspect that is of the question, is one which a vigilant trading community can by no means overlook. In the City of London alone, it is a proved point, that some 40,000l. are paid quarterly for gas, beyond what need be paid, if the service-pipes of the coal gas were cut off, and the new and purer gas adopted in its place. It is a question, however, for the citizens of London to decide for themselves. We speak, of course, of the latter branch of the subject. As to the former, involving as it does so intimately the health of this great metropolis, it is hardly a private, but a public and a legislative consideration. We do no more than our duty as public journalists, in bringing the subject from time to time under public observation. A miniature exhibition of the new gas may be seen at 113, London-wall, and its superior illuminating power made apparent, as well as the far less complexity and expense of its machinery and fittings. We should, of all things, like to see the chamber of Bow Church clock, the eye of Cheapside, lit up with the star-like radiance of this new illuminating agent. Or, if our humble voice could reach the Gresham Committee, or the comptroller of the Lord Mayor's household, we should urge upon them the public benefit they would bestow, by allowing the outside of the Royal Exchange, or the Mansion-house, to be experimentally and, at the same time, gratuitously lit up with the hydro-carbon gas.

We have said much of late to prove how greatly a large proportion of Aberdeen schemes have been mismanaged. We have stated facts more than enough to convince any rational being of the utter incapacity of those who promoted important undertakings in the north to carry them out successfully. We think we did some service by doing so. The "clique," through their right-hand man of the *Herald*, and the old lady of the *Banner*, felt rather sore on the subject, and attempted to justify their clients—the former by telling us that there were others as bad, and the latter, while more than agreeing in the severity of our strictures on the conduct of the "clique," by abusing us for noticing a subject which it thinks uninteresting to any one out of Aberdeen, and our remarks on which it believes to be uncalled for under the circumstances. We need scarcely say, that not one of these pleas are tenable. We wish to prevent, as much as possible, similar errors in future, by exposing bygone abuses. A circumstance which has just come to our knowledge proves the necessity of our keeping a sharp look out after our northern friends. We understand it is proposed that each of the three parties connected with the Bon Accord Mine, in Australia, should advance 2000l., in order to ascertain whether the lodes of the celebrated Burra Burra, which is adjacent, really run into the former property! If this be true, it shows the ignorance of mining operations of those who make such a proposition. One-third of the amount would be amply sufficient for such an operation, if properly conducted. We know of an instance in which the parties concerned sent competent men from this country to Adelaide, to survey a sett twice the extent of the Bon Accord, and have made the whole arrangements for working a valuable mine, for a sum not exceeding 1000l. Why two Aberdeen companies should pay so enormously high to obtain similar results, we know not. We hope we are misinformed, and we shall be glad if we afford an opportunity of contradicting the report, otherwise the failure of any undertaking so conducted must be attributed to want of knowledge and to extravagance.

We have, on more than one occasion, been called upon to insert communications from correspondents, deprecating of the proceedings of the authorities who govern the destinies of the Society of Arts, forgetful of the real interests and purposes for which the institution was established, and which its very title implies—"for the encouragement of art, manufactures, and commerce"—and tending to bring its name into contempt with the intelligent and scientific portion of the public, that very part of the community by whom it is supported, and to whom, indeed, it owes its existence. If former communications of this nature have excited regret for acts caused by errors in judgment, a notice from a correspondent, which will be found in another column, should it prove true, will raise the indignation and contempt of every honest mind. It evidently implies, and the implication is borne out by other statements from parties likely to be able to arrive at the truth, that recourse has been had to "jobbing" in the conduct of the affairs of the society; that favouritism has been shown in granting permission to exhibit works of art; and that, unless particularly in favour with certain parties, such permission is difficult to obtain. Whether however, true or false these accusations may prove, we know the general feeling of members to be in opposition to some of the steps taken during the last and present sessions, and we can certainly well understand that turning the society's premises into show-rooms, from which its own members were excluded, or even converting it into a picture gallery, to which persons can be admitted indiscriminately, on payment of sixpence, was never the intention of its worthy founders, nor have such adoptions at all a tendency to advance the interests of the society. There is nothing in these exhibitions of works of art but what may be seen any day in a walk up Regent-street or Oxford-street, and a visit to the establishments of any of the exhibitors, gives a far better view of the gigantic progress in the several branches of the useful arts which has taken place within the last few years, and which is still advancing.

It should be the aim and object of those who are at the helm of such institutions to render their proceedings subservient to higher purposes than mere exhibitions, with which this metropolis so admirably abounds—to foster and encourage native talent by nobler means than these—to decoy from its obscurity hidden genius, often kept in the dark for want of means—and to bring before the public all meritorious inventions, or suggestions, without favour or affection. Such was, doubtless, the intention of its founders; such are the present views, we have no doubt, of a large majority of its members; and we hope to see the time arrive, and shortly too, when the society's acts will receive the approbation of all its well-wishers, and those who feel a deep interest in the legitimate advancement of the arts and sciences. The conduct of the guardians of such important trusts should not only present a fair appearance to the world, but they should be, like Cæsar's wife, "beyond suspicion." While on this subject, it will not be out of place to call attention to the Institution of Civil Engineers. Here a rule, we believe, is laid down that no paper can be received unless the production of one of its members—a rule by which many useful inventions, and ingenious engineering arrangements, are never heard of within its walls. We expect it is from the enforcement of this regulation—and we shall be glad to be corrected, if in error—that Dr. Pott's valuable process for driving piles by atmospheric pressure, CLARK and VARLEY's pneumatic arrangements for railway traction, pile driving, &c., CUNNINGHAM and CARTER's system of railway propulsion, the interesting model of which is now exhibiting in the City-road, and many other inventions on which original papers of much interest might have been presented, have been entirely neglected by the institution. We should have thought the respectability and usefulness of such an establishment, if other papers than those of members were allowed to be introduced, would have rather been added to, than diminished, and, by bringing strangers in connection with its members, induce a greater number to join the institution.

We are informed, that a new establishment on an extended and magnificent plan is in course of arrangement, to combine all the characteristics of the Institution of Civil Engineers, the Society of Arts,

We allude to the Worthing Mining Company, the prospects of which appears in our advertising columns.

the Polytechnic Institution, and a Hall of Patentees; a large plot of ground, we understand, is taken for the building in an excellent and central situation near Exeter Hall, in the Strand, and the proposed institution is supported by some of the highest and most wealthy members of the community. We shall give the earliest possible notice of the nature of its constitution.

Since our remarks, in the *Mining Journal* of the 10th inst., there has been a dearth of information on the subject of California and the gold seekers. By recent arrivals from the United States, however, it would appear that they are beginning to obtain somewhat more correct and less exaggerated particulars than filled the American press a short time back. From the *New Orleans Crescent* we learn that the gold fever had taken hold on the Mexicans to an equal extent as on the Americans—numerous parties having started for the placers, and, with diggers of all other nations, probably make, in round numbers, 15,000 persons. The editor questions the policy of allowing foreign adventurers to abstract the precious metal of their territory, and convert it into foreign coin, and suggests the adoption of measures for preventing its leaving the country, except under proper duties. We also learn that General Smith had written on the 18th January to the American Consul at Panama, stating that the laws of the United States forbade the intrusion of foreigners upon public lands, and accordingly such persons being found gold digging in California would be seized, and punished as trespassers. This, probably, applies to the hordes of desperadoes who are flocking there from the shores of South America; but the Americans must find means to keep up an army on the spot before they can carry out the threat.

A conducta of \$2,000,000 in silver has recently left the fair of San Juan de los Lagos, for California, to purchase gold-dust, and another passed through Parras with \$460,000 for a like purpose. Capt. W. PHILLIPS, late of the barque *Moscow*, of Boston, had arrived from California, and was himself a gold digger; his evidence is, therefore, valuable. He brought a quantity of gold, in flakes, grains, and lumps—the largest of the latter weighing 1½ oz. The amount of gold brought by him had been greatly overrated, the lowest estimate was \$98,000, and he has less than that. He states that the largest piece that he has seen is in the possession of a Mr. MELLUS, and weighs but 6 ozs. He heard numerous stories, at the mines, of large pieces being found; but, in every instance where they were investigated, they turned out to be false, or greatly exaggerated. One man was reported to have found a piece weighing several pounds; he went to see him, and found its weight was only 2 ozs., and that it was the produce of an entire day's work. Capt. PHILLIPS considers the stories of averaging \$150 a day absurd, and believes that those who done the best have not exceeded \$3000 in the entire digging season. The inhabitants wish to obtain order, but they could hardly do it, except by having recourse to Lynch law, until some Government regulations are established. When several companies of Col. Mason's regiment deserted for the diggings, a file of soldiers were sent after them, who also deserted; he then started himself with a file of dragoons, called the diggers together, and told them, if they expected Government countenance, they must assist in arresting deserters. To this they said, if there were any refugees from justice they should be given up, but their time was too precious to run after mere deserters; Col. MASON was glad to leave with half his dragoons. Agriculture has been so totally neglected, that a man who had a field, containing 15,000 bushels of wheat, could not get it harvested, though he offered half the products, and was obliged to let his cattle eat it. Women and children, as well as their husbands and fathers, had become gold diggers. Capt. PHILLIPS's opinion as to the success of expeditions daily starting from this country is, that it will depend upon the manner of their organisation. There is no doubt, he says, of there being considerable quantities of gold in California, but there is gross exaggeration in the matter.

Accounts from the Isthmus of Panama are most distressing; there were, in January, at least 500 wretched beings wending their weary way towards the El Dorado, which to many of them would prove their grave. At Chagres, the principal inhabitants are Sambos and Mulattoes, trembling with ague, or burning with fever, the whole year; the heat is excessive, and the rain incessant. It is rumoured that the whole isthmus has been offered to North America for a sum of money, and the report appeared well received, as there is no tie of any interest between the inhabitants of the isthmus and the interior, and it is highly probable the stars and the stripes will soon wave over the Isthmus of Panama. The revenue laws of the United States were to be in operation in California as an integral portion of the Republic, by the name of Upper California. Mr. E. H. FITZGERALD, Quarter-Master-General of the United States army, stationed at Panama, states, in an official dispatch to the Government, "that the difficulties of crossing the Isthmus of Darien, from Chagres to Panama, are very great, except for a very few persons, and a small quantity of baggage, or freight. The number of canoes to be had at Chagres, all told, great and small, is not more than 40. The number of animals to be had at Cruces and Gorgona (being inferior mustang horses, not mules) is not more than 200; this includes all that can be furnished from this place. The result to us has been, that more than one-half of our public stores and baggage has been brought from Cruces and Gorgona to this place by men, at \$10 the 100 lbs. Mules, or ponies, are now paid for at the rate of \$20 each. No arrangements have been made by the agents of any line, either on the Atlantic or Pacific, to facilitate, in the slightest degree, the transmission of either passengers or freight, or Government property, across the isthmus. No impediment exists to the construction of a railroad across the isthmus, except the unhealthiness of the climate, which is like the low coasts of Africa. No gradient of 40 ft. to the mile need be made, as the valleys will allow any distance to be gained to ameliorate the declivity. Puerto Bello is an excellent harbour on the Atlantic side, and in old times all the trade passed from thence to this city by a paved road, now covered with the luxuriant vegetation of the climate. It was abandoned because the river of Chagres afforded for two-thirds of the way an easier mode of transportation for the little traffic across the isthmus."

The tide of emigration from the United States was flowing out in numerous streams for California. The barque *Malloy*, from Massachusetts, in January, took out 73 passengers; the *Orb*, from Boston, took 21; the schooner, *Newton*, 37; and the barque *Almyra* was expected to leave in a day or two. It appears to us, from the foregoing details, that there is still a dearth of important official intelligence from the gold district, and it is probable we shall not be able to arrive at any correct conclusions until a vessel arrives in one of our own ports—from the captain, or from the trustworthy passengers, some undoubted information may be elicited. Some Californian gold is stated to have arrived in London on Wednesday last.

By accounts received since the foregoing was written, we are informed of some further discoveries of gold and silver in the United States. In the county of Monroe, North Carolina, a mine had been found which yielded very abundantly; four men in two days found 12½ lbs. weight of the precious metal, and it was daily picked up in more or less quantities. Another mine had also been discovered about nine miles from Charlotte Town, which had been worked for several weeks. The vein was 8 feet wide, and averaged about \$5 per bushel of earth. Some negroes had obtained some with \$30 and \$40, and one piece of metal weighed 8½ lbs. In Georgia, also, several gold veins had been discovered. A local paper contains the following notice of it:—"A rich gold vein has recently been discovered on a lot belonging to Dr. M'ARKE and others. This mine is about one mile south-west from Anarria, on the Etowah River. We were at this mine a few days since; little ore had then been taken out, but what we saw gave external specimens of the wealth within. Col. H. W. RILEY made 95 dwts. of gold on a deposit with eight hands during last week. Messrs. MOORE and KENNON have just opened a new vein on the Eard lot, which they suppose will yield 2 dwts. of gold to the bushel."

In Maryland a silver mine had been discovered on a place called Red Hill, three miles south of Boonsboro. Specimens had been exhibited, but they had not been analysed. The Missouri Legislature had passed a bill to incorporate a body of adventurers, under the name of the "Missouri Mining Company," with a capital of \$400,000, for the purpose of mining,

smelting, and manufacturing ores, minerals, and metals, in the counties of Jefferson, Washington, and Franklin. The property of the company included a great number of mines, amongst which are mentioned the extensive lead mines in Jefferson county.

From this, and other discoveries of a similar nature, which we have had to notice during the last month or two, it would appear that the California mania has extended its influence to other parts of the American continent, setting the people to seek for gold and other mines. We shall, probably, hear of still more discoveries.

South Australian papers, dated Adelaide, the 16th December, mention that the arrivals of the new wools from the interior had been retarded by heavy rains, and the consequently bad state of the roads. The ores from the mines had from the same cause been likewise delayed. The mining share market had undergone various fluctuations. An active business had been transacted during the early part of the month, but the dealings during the week ending the above mentioned date had been less brisk. There had been a heavy decline in the price of Burra Burra shares, owing to some difficulty respecting the dividends, the particulars of which are not mentioned. But the following extract from a paper of the latest date supplies some indications of its nature:—"The worst being now known as to the dividends, the proportionate worth as an investment will soon be discovered and fixed, subject to a speedy, though perhaps not a serious, alteration from the present limit." There was considerable difficulty in fixing a price for these shares, but as no one would sell under 150l., that quotation is given as their current value. Port Lincoln shares have declined to 6l. 15s. The samples of ore from the mines of the company are, it is said, of the "brightest promise." The Enterprise Company had turned out some exceedingly good specimens of ore, and the prospects of a lode were watched with increasing interest. The captain of the Prince Albert Mine had arrived with intelligence of having cut a very fine lode of 5 ft., the ore of which is represented to be exceedingly rich in copper—upwards of 40 per cent., and the information respecting the mine is said to be most encouraging. The prices of the several shares are quoted as under:—

	Price.		Price.
Belvidere	£ 8 15 0	Port Lincoln	£ 6 15 0
Burra Burra	100 0 0	Prince Albert	2 4 0
Enterprise	1 10 0	Provincial	1 5 0
North Kapunda	12 6 0	Wheal Gawler	15 0 0
Mount Remarkable	12 0 0	Wheal Grange	5 9 0

In the papers we observe that the Patent Copper Company had effected arrangements with the Burra Burra Mining Company for the smelting of copper at the mines. Works for the purpose were to be immediately commenced, at an expense of between 60,000l. and 70,000l., and 60 additional furnaces had been ordered from England. Similar arrangements were intended to be made with the South Australian Company for the smelting of ores at Kanmantoo. The quantity of ore shipped from the mines during the week ending the 4th December was 508 tons, of which 208 had arrived at Port Adelaide.

By advices received from Swan River, it appears that reports had been circulated respecting further mineral discoveries, but it was questioned whether copper ore was to be found in the soil, former presumed specimens having been proved deceptive.

In directing attention last week to the projected undertaking for supplying water to the inhabitants of Amsterdam, we referred to the great desirability of its success, inasmuch as the supply of that necessary of life was there extremely deficient. Our remarks have called forth a letter from a correspondent, which appears in another column. It is to be regretted that important and useful measures should be frustrated by the avarice or miscalculations of their promoters. If men will act in a *bona fide* and cautious manner, they will always find their objects more easily attained, besides the satisfaction it will afford to themselves. We hope the directors of the Amsterdam Water-works Company will carry out their plans upon such principles.

STATISTICS OF COAL.

We have received a copy of a work under the above title, descriptive of the geographical and geological distribution of fossil fuel, or mineral combustibles employed in the arts and manufactures—their production, consumption, commercial distribution, prices, duties, and international regulations, in all parts of the world. The volume, which is voluminous, contains no less than 400 statistical tables, and 1100 analyses of mineral bituminous substances, with statistical statements of iron manufacture. It is from the pen of R. C. TAYLOR, Esq., F.R.S., and contains, in one volume, all the statistical matter relating to the coal trade, which will be found in various authors for many years past—a variety of information not to be found in any single work, and much that will not be found in any number of works, is here offered to those interested. The author has sought out and gathered together a great number of materials, to remedy a deficiency long complained of in this and other countries—viz.: authentic information, local, general, statistical, commercial, and scientific, on the subject of coal. This information is not confined to mineral coal alone; the vast deposits of the brown coals, or lignites, of a later geological epoch, so abundantly distributed, come in for their share of investigation, and justly so, as this description is a valuable substitute for the older coal, where there is a scarcity of the superior quality. Peat also is fully described and expatiated on; its inestimable worth in the northern hemisphere, where artificial warmth is so indispensable, properly dilated upon, with its adaptation to the manufacture of iron, production of gas, and numerous other valuable articles of commerce—the coal series thus extending upwards from carbonised peat to compact anthracite. Nor is this all; unwilling to exclude any of the bituminous or resinous compounds, the author has introduced full accounts, as far as can be collected, of the solid bitumens of the tropics; the asphaltites of France, Spain, Syria, and other countries; the petroleum of Asia, of Birmah, of Persia, and Ava; the naphtha springs of Rangoon, Tartary, and Georgia; the amber of Pomerania, Saxony, and Siberia; the mellite, or honeystone, of Thuringia; and the resinites of England and Moravia. A number of these substances accompany the carboniferous formations; others arise from the midst of primary, metamorphic, and igneous rocks; while still more accompany, or are imbedded in, the lignite beds and tertiary coals of every part of the world. To render the series of combustibles complete, the author has even added official returns of the annual amount and value of the wood and timber furnished by the forests of France, Austria, the Tyrol, Styria, Illyria, Galicia, Bohemia, &c. A considerable mass of statistics on the manufacture of iron, as an accompanying return to coal, is also incorporated in these pages. The work also contains a variety of statements of commercial facts, details of the respective tariffs, customs and international regulations in respect of coals, progress of railroads and canals, steam-power and navigation, with a vast series of analytical tables, besides maps and diagrams. The index alone is what the author designates it, as concentrating a vast mass of information, which has been dispersed through hundreds of volumes in different languages, constituting an epitome, or condensation, of the entire work, and making any portion of its voluminous details easy of access.

The introduction to the body of the work consists of 143 pages, and is an excellent essay on the nature and production of bituminous matters, their geographical distribution, method of mining, drainage of mines, ventilation, fossil botany, and, in fact, every detail connected with the working of collieries. From this introduction, we shall now conclude the present notice, with an extract; and, in succeeding Numbers, we shall insert copiously from the contents of this valuable work—one which certainly contains all that can be known of coal statistics in all parts of the world, and with the advantage of having them embodied in one volume, and reduced to one language:—

"We take for granted that every one who may chance to peruse the summary of statistics of mineral fuel which we have embodied in the present section, will be impressed with the immense importance of those substances, particularly as developed of late years; how vastly enlarged the area and bulk of their production in all countries; how essential they now are to the comfort of the human family; how much they have done towards the extension of the useful arts; how gloriously they have aided the progress of invention and improvement; how mighty are the results which have followed their increased application! For ourselves, we may remark, that during the investigation into the geographical distribution of coal and the subordinate combustibles, nothing has struck us more forcibly than the abundant supply with which Providence has furnished the inhabitants of our globe, particularly in the northern hemisphere. We were astonished at the almost numberless positions where mineral fuel is attainable, especially in North America and Europe. With very inadequate guides at the outset, we have brought together an enormous mass of geological and statistical details, which exhibit an amount and variety of fossil combustibles which far exceeded our original expectations. We have seen how recent is the knowledge of the existence of immense regions occupied by coal, and that every year new positions, new deposits, become known to the traveller, or are demonstrated by the geologist. Through them, and the enterprise of the miner, a rich store of intelligence has been acquired, yet much remains behind. We are yet in the infancy of our knowledge as regards vast areas of country. But as the geologist has been during the last half century, how much is yet to be investigated; how wide the space yet untrodden; how ample the fields yet open to the scientific explorer! The last quarter

of a century has, more especially, been prolific in the discovery of the sites of useful mineral combustibles, and in the extended application of their products to the service of the community. Man has not only been taught increased facilities in adapting them to the useful arts, but practical science has apprised him of the great value of substances heretofore accounted of little worth, yet inexhaustibly abundant, and almost everywhere within his reach. He has acquired, for example, many new facts relative to the value of peat, hitherto amongst the humblest of the combustibles, yet the almost universal production of cold or temperate climates, and of regions which are entirely incapable of producing a growth of timber or of the large plants. Independent of its applicability to the usual domestic and agricultural purposes, he has seen that it can be successfully applied for gas-lighting; for steam-engines, for evaporation, and for every branch of the iron manufacture, commencing with smelting in the high furnaces, and ending with the most delicate manipulations practised in the working of steel. Thus, in compensation for the absence of the supposed superior descriptions of fuel, coal for instance, Nature has been bountiful of another, where most needed; and this, too, which, unlike fossil coal, is reproductive; always renewable and renewing. The fear, therefore, entertained by some theorists, that the earth will be exhausted of its mineral combustibles, may be alleviated by the contemplation of that enormous supply of vegetable fuel, which prevails where eventually it will be most needed."

Mr. Taylor then proceeds to show how vastly more profitable is the application of labour in mining for coal alone than in the precious metals. The annual production, according to Humboldt, of the gold and silver mines of North and South America was 9,243,000l., now only 5,000,000l. —while the value of coal in Great Britain alone is computed at the pit's mouth at 10,000,000l. per annum, and at from 15,000,000l. to 20,000,000l. at the various distant places of consumption. The value of iron brought into a manufactured state, through the agency of this coal, is 17,000,000l. more. He then proceeds:—

"We cannot but mark also the superior character and condition of the inhabitants of the coal-producing and consuming countries, such as those of the northern hemisphere, especially since the introduction of steam-power, to that of the people of the southern and tropical latitudes, to whom coal has either been wholly denied, or is not applied to any use. The industry, activity, moral culture, and intelligence, concentrated around any of the great deposits of coal and iron in the temperate regions—in the anthracite districts of Pennsylvania, for instance—have no parallel in the countries from which such treasures have been withheld. The two important mineral substances—coal and iron—when made available, afforded a permanent basis for commercial and manufacturing prosperity. Looking at the position of some of the great deposits of coal and iron, one perceives that upon them the most flourishing population is concentrated—the most powerful and magnificent nations of the earth are established. If these two apparently coarse and unattractive substances have not directly caused that high eminence to which some of these countries have attained, they, at least, have had a large share in contributing to it."

We now conclude for the present, but not, however, without again expressing our admiration of this valuable work—a collection of miscellaneous information on the subject, which has long been a desideratum, and which must prove most acceptable to all engaged, or interested, in bituminous mineral property, and one from which, as before stated, we shall largely extract some of the more interesting portions, for the edification of our mining readers.

HIGH-PRESSURE STEAM VENTILATION—PUBLIC MEETING AT NEWCASTLE.

A public meeting, called by the Mayor, agreeable to a requisition, numerous signed, to take into consideration the awful calamities of fire-damp explosions, took place in the Guildhall, Newcastle, on Friday last, and was adjourned to Wednesday, in consequence of its being then stated that a deputation from some of the authorities interested in coal mines had been sent to Mr. Gurney, to come down to that district, and who was then expected.

The MAYOR said, the subject was so important, and as the colliery viewers, and other scientific gentlemen in the neighbourhood, had expressed their anxiety to have an explanation of the principle of the action of high-pressure steam in producing ventilation of coal mines, Mr. Gurney would come down, and he was authorised to say would, on Tuesday, explain the principle by experiment. He, therefore, at the request of the parties, would adjourn.

The *Newcastle Courier* reports the meeting of Tuesday at some length, detailing many of the experiments reported by us, which took place at the Polytechnic Institution a fortnight since, and which we need not again detail; in addition, there were many points of value bearing on the subject. The meeting was convened by the Mayor, of Newcastle, and took place on Tuesday last, at Mr. Coulthard's engine manufactory, Gateshead, for the purpose of receiving Mr. Gurney, and allowing professional gentlemen an opportunity of hearing the explanation relative to the principle of high-pressure steam as a motive-power for ventilating coal mines, and other purposes. The meeting, although strictly private, was numerous attended; the Mayor, the numerous viewers in the district, and other scientific gentlemen were present.

Mr. GURNEY, in proceeding, commenced by explaining the reason why high-pressure steam was cold when escaping into the atmosphere—the solution of which, he said, involved at once the principle of its action as a motive-power for ventilation. The usual explanation hitherto given was, that high-pressure steam, when coming into the atmosphere, expanded so as to absorb the sensible heat by its expansion; the steam was thus reduced. This, however, was found not to be correct, because the moment the steam issued from an orifice, it was mixed with the surrounding atmosphere, and, of course, was cooled in the exact ratio with the quantity of air it mingled with; in proof of which, Mr. Gurney showed, by interesting experiments, that the atmosphere was disturbed, or moved, in proportion to the volume of air set in motion, and that one cubic foot of high-pressure steam, at 60 lbs. to the inch, if properly applied by a suitable apparatus, would remove 6000 cubic feet of air at low velocity. The principle of this action would appear, from the experiments, to be that of *exhaustion* and not compression, as it was generally thought natural for any one to suppose from the term "high-pressure" ventilation. [The details of the experiments were the same as those which took place at the Polytechnic Institution, and reported by us.] Interesting experiments were then made to illustrate the direction of the current, and the system of its application to coal mines, by which a small quantity of steam, issuing through a pin-hole orifice, was made to produce a current in a 5-in. tube of some length—equal to the strongest hurricane known in the West Indies—pieces of wood shavings and other substances were drawn by it through the downcast shaft along the galleries, and were discharged at the mouth of the upcast shaft with considerable velocity.

In the above experiments, Biram's anemometer was used to measure the rate of currents.

Mr. FORSTER, viewer, at the termination of the experiments, said, Mr. Gurney's apparatus was in effectual operation at Seaton Delaval Colliery, and that the expense of its application was less than that in the arrangement of the furnace, the entire apparatus consisting of nothing more than a few gas-pipes connected to a high-pressure boiler. He also stated that, on extinguishing the furnace which was working in conjunction with it, there was found to be no reduction in the amount of ventilation. At present the amount of ventilation by steam jets was calculated to be about 73,000 cubic feet per minute; but that quantity could be increased at pleasure, by increasing the amount of steam power, or opening the jets.

Mr. ELLIOTT, viewer, Monkwearmouth, stated that he had just applied the high-pressure system to one of his mines, at Belmont, with absolute success; and that he had put out his furnaces, and was now working with naked candles in a pure and healthy atmosphere.

Mr. GURNEY said that, with regard to the expense of working, it would not cost more than one-eighth, or at most one-sixth, in fuel, as compared to the expense of the hot-air furnaces now in use.

The MAYOR then proposed a vote of thanks to Mr. Gurney, and, in doing so, said, that he firmly believed that the subject under consideration was one of the greatest importance to coal mines introduced during the last century.

Mr. NICHOLAS WOOD, of Killingworth, having seconded the motion, it was put and carried unanimously.

The subject of the ventilation of mines, especially with regard to this district, is of incalculable importance, and has long been a matter of serious consideration with some of the most able engineers and viewers for some time past. With regard to Mr. Gurney's plan, it is due to say, that where it has been made known, it has been received with tokens of approval. In addition to its value, as a means to prevent those sudden and destructive explosions in the mine, it is also conducive to the health of the miners, by drawing off the impure air, especially carbonic acid, which is found in such large quantities in this district.

SOCIETY OF ARTS—EXHIBITION.—On Wednesday last, we went to inspect the specimens of British manufactures and decorative art, which have been collected for exhibition at the house of the society, in the Adelphi. The great room had a splendid appearance, being well lighted, and presenting such an assemblage of articles, in metal, glass, porcelain, &c., as, perhaps, has never been surpassed; while, in some ante-rooms, were displayed numerous specimens of silk, lace, shawls, carpeting, &c. Among those which more particularly attracted our attention we may mention, the silver-gilt centre piece, executed by command of Her Majesty, from a design by Prince Albert, as a work of remarkable merit, and to which the testimonial presented by his Jewish brethren to Sir Moses Montefiore, to commemorate his mission to the East, forms a worthy companion; numerous racing cups, which are tolerably well known as evidences of the great artistic skill of their manufacturers; an "Egyptian lotus," by Messrs. Gass; the "Dying Gladiator," and "Shakspere," by Mr. Hatfield; a "Knight on Horseback," by the Coalbrookdale Company; the "Exiled Mother," sculptured in white marble by W. Jackson; some specimens from the Gutta Serena Company; the Worcester present of Oriental pierced China to Jenny Lind, manufactured by Messrs. Chamberlain; an inlaid marquetrie door, by H. Ballis; some candelabra, by Messrs. Osler; stoves, by Mr. Pierce; wood carving of a geranium, by N. Swallow; a papier maché loo table, by Jennings; and Betheridge; Mr. Tennant's contributions of black marble; and the work exhibited by Mr. Potts, of Birmingham, which made us regret that a room had not been devoted for such a display of his art as we had the pleasure of inspecting some months since, and noticed in our *Journal* of the 18th Nov. last.

Original Correspondence.

MR. G. GURNEY'S HIGH-PRESSURE STEAM VENTILATION.

SIR.—On the 20th inst. a meeting was convened of numerous practical viewers and other scientific persons, to witness the experiments, and hear the explanations of Mr. Gurney, relative to the principle of his ventilation by means of high-pressure steam. The subject was rendered doubly interesting, from the circumstance of Parliament being about to be moved to take into consideration the propriety of legislating in the affairs of mines, with a view of preventing those dreadful explosions, which, from time to time, fill the public mind with deep sympathy. It is far from generally known that the House of Lords has been for some time ventilated by this same apparatus—viz.: an artificial chimney is prepared of 3½ feet square, into which five jets of steam are discharged, which are found to displace an ample and perpetual current of adulterated air, whilst it draws after it pure atmosphere. The principle, as applicable to mines, may be described as follows:—Where the upcast shaft is at liberty for its application, an ordinary high-pressure boiler may be placed convenient to the upcast shaft, from which a pipe of 1 in. and 1½ in. diameter may be led to the apparatus situated 20 or 30 feet beneath the surface. The apparatus consists of concentric or other continuous pipes, containing jets of steam of not exceeding ½ in. diameter; the said jets being so placed, as to divide the area of the shaft as nearly as possible into equal sub-areas; the main pipe is furnished with a valve or stop-cock, whereby the attendant can regulate the quantum of ventilation at pleasure. It may be sufficient to state, that to each jet a greater area than 2 square feet should not be assigned, so that a shaft 8 feet diameter, containing an area of 50 square feet, would require 25 jets of steam. According to the pressure of the steam will be the proportionate amount of ventilation, and all that is required is attendance upon the boiler, so as to maintain it in a proper state with regard to water.

If the upcast shaft is employed to wind coals, the apparatus cannot be applied in it; but may be applied by a separate drift at the bottom of the shaft, A, in a similar manner as the furnace, or it may be applied in a separate chamber, B, contiguous to the working shaft—only, in that case, the top of the working shaft must be furnished with air-tight doors, to be opened and shut every time the tub passes; therefore, although this apparatus is an inconvenience and partial drawback upon the principle, yet the proportion of air lost by that means will not materially deteriorate from the utility of the scheme. The advantage attached to the apparatus being at the top of the shaft, consists in having the boiler fed with water by means of the steam-engine employed to draw the coals; whereas, if placed below, it would require either to be fed by a hand force-pump, or by pipes, taken from the upper parts of the shaft.

If a greater amount of ventilation is required than resulting from the ordinary furnace, they would not work advantageously together, nor would there be an object in such combination, because, the apparatus once erected, the speed of the air may be increased at pleasure, by increasing the temperature of the steam. The operation of the furnace is by heat and rarefaction; but the high-pressure steam acts by the force of impulse—each jet being taken to operate upon its respective portion of the general area of the shaft; and the movement being continuous, the whole column of air is thus started and kept in motion, and a corresponding exhaustion produced beneath, as explained in the *Report of the South Shields Committee*, of 1843. It does not appear to be material in principle whether the application is made at the bottom, or near to the top of the shaft, provided there be sufficient space to enable the steam to complete its effect upon the air column before escaping.

With regard to the expense of establishing and maintaining this apparatus, as compared with that of the furnace, hitherto considered the best means of producing economic ventilation, I think I may very safely affirm, that it will cost considerably less—the excavations necessary for the boiler being less than that of the arching applicable to the furnace; the attendance being the same; whilst the consumption of coal will not exceed 1-6th. The subject of ventilation by high-pressure steam was suggested by Mr. Gurney to the Committee of the House of Commons in the year 1835; was published, together with details from himself, by the South Shields Committee in 1843: it was applied to the ventilation of the House of Lords in 1847; and it was noticed in my *Treatise upon Coal Mining* in 1844 and 1848; and yet not a single trial has ever been made, until the latter end of last year by Mr. Forster, at Seaton Delaval Colliery. Now, these facts confirm, in a remarkable degree, the allegations that, without Parliamentary interference, improvements will travel exceedingly slowly from one district to another—indeed, experience shows that suggestions thrown out by uninfluential persons, however scientific or however practically acquainted with the subject, fall pointlessly before those who are wedded to systems peculiar to each respective district.

However, I am happy to compare the project of Mr. Gurney with the safety-lamp of Sir H. Davy, in respect of the simplicity and self-evident advantage which it possesses over every known application; and I, therefore, hesitate not to subscribe my humble approbation of the high-pressure steam system; and I have every reason to believe that it will be approved of by the general body of colliery viewers, as soon as they have opportunity of arranging matters for its application to peculiar situations. It is stated by Mr. Forster that, after the furnace was extinguished, the effect upon the ventilation was increased 50 per cent.—viz.: from 53,000 up to 79,000 cubic feet per minute—and it might be carried to double that quantity if required.—MATTHIAS DUNN: Newcastle-upon-Tyne, March 22.

VENTILATION OF COLLIERIES.

SIR.—Mr. Joshua Richardson appears to consider that the fact of the ventilating furnace, when placed at the bottom of the upcast shaft, ventilating the mine more efficiently than it does when placed at the top of the shaft, a sufficient reason for entertaining "grave doubts" of the efficiency of high-pressure steam, if applied at the surface, as explained by Mr. Gurney. Now, with all due deference to Mr. Richardson, I think that the failure of furnace ventilation, when applied at the surface, is no criterion for coming to the conclusion that he has done—indeed, the principles which govern the obtaining of a motive-power by heat, are directly opposed to those which govern the obtaining of it by steam. In furnace ventilation, the power which ventilates a mine is the difference between the heights of two columns of air—one heated, and the other at the natural temperature. The ventilating power is, therefore, proportional to the depth of the upcast shaft; and hence the greater efficiency of the furnace, when placed at the bottom of the shaft. In high-pressure steam ventilation, the motive-power is obtained by "pistonning" the air, as it were; it matters not, therefore, at what point of the upcast shaft this action commences, so long as care is taken to have a sufficient column of air above that point, to keep the current uniform; and Mr. Gurney says, in the *South Shields Report*, that 20 or 30 ft. is sufficient for this purpose. Indeed, it would appear that, to avoid the resistance consequent upon the condensation of the steam, as pointed out by "Carbon," in your *Journal* of last week, the best place for arranging the jets would be in a horizontal gallery, leading from the top of the upcast shaft. But it does not appear to me that it is a question of power which requires consideration. I am of opinion that, by the application of either the furnace high-pressure steam, or Struve's mine ventilator, a sufficiently strong motive-power may be obtained for the keeping of the mine safe, under all ordinary circumstances, if the air is properly distributed underground; but cases sometimes occur in coal mines, where, it would appear, no practicable amount of ventilation will prevent explosions, if naked lights are exposed—I allude to the sudden issues of gas called by the late Mr. Buddle "bays of foulness." The subjects which appear to require consideration, are the following:—1. Assuming that either the furnace, high-pressure steam, or Struve's mine ventilator, affords a sufficiently strong motive-power, which of them is best adapted to mine ventilation?—2. Which is the most efficient way of distributing, or "working," the air when underground?—3. Which is the best way of guarding against the sudden issues of gas mentioned above?—As regards the first question, Struve's mine ventilator appears objectionable, on account of the liability of all machinery to sudden stoppage from accident. It has been said, in case of accident, put on a water-fall in the downcast shaft, as they are obliged to do occasionally in the north of England, when repairing brattices, &c., in the upcast shaft; but I would remind those who make such suggestions, that when a water-fall is resorted to, care is taken to have all naked lights out of the mine. In the most dangerous collieries in the north of England, it is well known that, in case the air is suddenly cut off in less than half-an-hour, the

mine becomes so foul as to fire in almost any part of it, if naked lights are exposed.

Ventilation by high-pressure steam is objectionable for the reasons stated above, but not to the same extent as that by machinery. On this subject the South Shields Committee says:—"The objection seems more tenable against a fan apparatus, air-pump, or other mechanical means, in which machinery is in powerful and rapid motion, than against steam ventilation with the furnace, in which no such action exists." Ventilation by the furnace appears to be less objectionable than that by either of the other means. It will produce the steadiest current of air, and will, as I said before, be sufficiently powerful for the keeping of the mine safe under all ordinary circumstances. It may be denied by some that the furnace is sufficiently powerful, but I may mention an instance of furnace ventilation, which will furnish some key to its power.

In the Haswell Colliery, after the explosion in 1844, it was found that 75,000 cubic feet of air per minute was passing through some of the most extensive workings in the north of England, and where, in consequence, the resistance must have been very great. This quantity was obtained by means of two furnaces placed at the bottom of the upcast shaft, which was only 9 ft. 6 in. in diameter; (see evidence on Haswell explosion). The mean temperature of the upcast shaft at the time, I believe, was about 108°. Now, it does not require much stretch of imagination to conceive, and perfectly with reason, that an upcast shaft might be made of much greater area, and that its mean temperature might be raised much beyond 108°, and that, in consequence, a much greater motive power might be obtained, if necessary. As regards the second subject. Excepting the north of England, perhaps no department of mining is more defective than that which belongs to the distribution or working of the air underground. In the north of England, from the great difficulty and consequent expense attending the sinking of shafts, the collieries are, perhaps, worse off for means of ventilation, so far as shafts go, than in any other district; yet it is notorious that the ventilation is more perfect there than in any other coal-field. The reason is obvious—in the north, the air which can be got into the workings is made the most of, by judicious distribution; in other mining districts this is not the case. It would be foreign to the object of this letter to go into the most efficient way of distributing the air, but Mr. Joshua Richardson, who had the honor of being presented with, I believe, the gold medal by the Institution of Civil Engineers, for his paper on the Ventilation of Mines, will, perhaps, favor us with something on the subject. Mr. Richardson's paper must surely contain something good; why, then, is he so chary of it, at a time when the prevention of accidents in mines is occupying so much attention? As regards the third subject. Scientific men, who have had the opportunity of witnessing the sudden issues of pent up gas, and of investigating the subject minutely, have nearly unanimously come to the conclusion, that no amount of ventilation will prevent explosion when such issues take place, if naked lights are exposed. I may observe that these accumulations, so far as we know at present, are confined to particular coal-fields. The only way to avoid them appears to be, by enforcing the exclusive use of the safety-lamp in those collieries which are subject to them.—S. D.: Glamorganshire, March 22.

ON THE VENTILATION OF MINES.

SIR.—In your *Journal* of the 10th inst., you gave an interesting account, from Mr. J. Richardson, C.E., of Neath, of what he is pleased to call *Mr. Struve's new mine ventilator*. It will, however, be in the recollection of yourself, and probably of many of your readers, that the ventilator alluded to was stated by Mr. Cailman and myself to have been introduced into this country by Mr. Taylor, upwards of 30 years ago, who, I believe, received a prize for it from the *Society of Arts*, to which we find an allusion in your *Journal* of the 17th inst., in a letter from Mr. Evan Hopkins. I now call attention to this subject with a view to impress more seriously upon the minds of the public, that a large proportion of the accidents which have arisen from the want of proper ventilation in coal mines would in all probability have been prevented, had the best means we already have in our power been more generally adopted, and that our great deficiency in that respect takes its rise in the want of a competent authority—first, to judge of the merits of the various inventions brought forward, and next, to enforce their use under proper regulations. After 35 years' experience in coal mining, I have long ago come to the conclusion, that the most effectual mode of ventilating mines is by steam or water-power applied to the purpose of drawing the air out, either by the air-pump or by a fan, the latter of which was the subject of a paper I read before the West Riding of Yorkshire Geological and Polytechnic Society, at a meeting held in Leeds, about five years back, as having been applied by Mr. Furness, of Leeds, to some of the coal mines in the neighbourhood of Whitehaven. Whether of the two modes in question is the better may be easily ascertained and decided by experiment, and that, or some other more effectual means, certainly wants making more generally known, with a view to its adoption.—HENRY HARTOP: Bamfborough Hall, Rotherham, March 22.

VENTILATION OF MINES.

SIR.—A paragraph in your *Journal*, of the 17th instant, which has just reached me, states that "the hood or cowl, self-acting, over the upcast shaft, of which I claim the invention, but generously dedicate to the public, has been used in the collieries of the north of England for at least 20 years." As my only object in this matter is to give my aid to humanity, however humble my power, perhaps you will not refuse to tell me in what particular district of the north the method of ventilation I propose has been adopted. I have been in the pit districts of Durham, of Scotland, of Yorkshire, and of Derbyshire, and have never seen anything of the kind used; I have also made inquiries concerning the mode of ventilation used in Wales, not only in coal, but in other mines, and my informants have invariably told me that no such method has been adopted; but if you can point out where it has been used and failed, the time and money I have spent are lost, and no injury results to any but myself; but I am happy in the idea, that in this district the method which, as you are aware, does not consist of a hood for the upcast shaft alone, has not before been heard of, that the coalowners think there is great value in it, and are erecting permanent ones, the canvas and temporary ones which we have tried answering most fully my expectations; and it is, moreover, the opinion of all that are conversant with the subject here, that had these ventilators been in use previously, no accident would have occurred at the Darley Main Colliery. I am in correspondence, also, with several gentlemen in the north interested in mines, who, I am sure, would have told me if any similar plan had been adopted there; at the same time, if you know that the plan I propose has been adopted, as well for the downcast as the upcast shafts, and will kindly tell me where, and to whom, the mine belongs, I shall be satisfied. I will forward models to your address, the one for the working shaft; where that is the only downcast, is not ready, but it also shall be forwarded soon. You have no doubt observed, that these explosions occur during a stormy season, and the cause, I think, is obvious; now, place a ventilator, or conductor (if the name be more applicable), over the downcast shaft, with its mouth to the gale, and let any one deny that the air would not find its way, and rush through every part of the mine, carrying any hydrogen and its compounds up the upcast shaft.

The limits of a letter will not allow me to enlarge much on the subject; but I would respectfully remind those who appear to invite Government supervision, of the Israelites who demanded a king. The loss of life is fearful, and cries aloud for remedy. Let all who can devise a method, make it public, and then let the coalowners and coalviewers choose the one that best answers the end in view; and its adoption may be relied upon, provided it be not too costly. The outlay of a few thousand pounds may be of no moment to some of the wealthy coal proprietors in Durham; but many smaller fields could not be worked, if a great outlay for ventilation and supervision were required.—GEORGE DUNN: Doncaster, March 21.

[The paragraph referred to by Dr. Dunn, we received from a highly respectable and practical correspondent, who is well acquainted with the detail of colliery workings for many years past, and who will, no doubt, reply to this communication next week. In the meantime, we think the thanks of the public are not a bit the less due to Dr. Dunn, who has evidently brought the matter before it solely from a spirit of humanity. We shall be happy to receive the models, and will place them in our office for inspection.]

ON THE ECONOMY OF RAREFIED AIR IN VENTILATION.

SIR.—It appears to me that a very slight investigation of the principle of obtaining a draught, or supply, of air, whether for the ventilation of mines, the furnaces of steam-boilers, or for any other purpose, by means of a column of rarefied air or gases, will be sufficient to satisfy any person that, although it may be in strict accordance with one of the laws of Nature, is, nevertheless, one of the most extravagant and wasteful modes of applying heat that could well be conceived. A column of air, 100 ft.

high, rarefied until it was of only half the specific gravity of the surrounding atmosphere, will yield a draught, or pressure, of only about 4 lbs. to the square foot; and were its power applied to produce mechanical effect, the utmost that could be accomplished by every 100 ft. of such air, in a shaft 100 ft. high, would be to lift 4 lbs. that height; but the heat that would be necessary to rarefy the air to that extent, would convert about 50 cubic inches of water into steam, which, if generated at a moderate pressure, and used economically, would lift at least 2000 lbs. the same height. In the best of present arrangements, full one-half of the heat that is, or ought to be, evolved by the combustion of the fuel in the furnaces of steam-boilers, is wasted, or allowed to escape up the funnel, or chimney, for the purpose of obtaining a draught or supply of air. In the course of a few weeks, publicity will be given to arrangements by which the whole of the heat that is evolved in the furnaces of all kind of steam-boilers, may be usefully and economically applied.

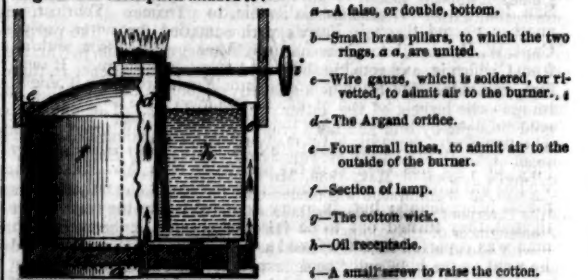
March 20.

AN ENGINEER OF THE NEXT GENERATION.

SAFETY-LAMPS—ARGAND BURNERS.

SIR.—As so much interest is very naturally excited by the late explosions, and so many suggestions appearing in your valuable *Journal* for preventing the awfully frequent recurrence of such catastrophes, I should feel greatly obliged by your again calling attention to my proposed Argand safety-lamp, as described, accompanied by a diagram, in the *Mining Journal* of Feb. 19, 1848. The space you have devoted to this important subject, must fully convince your readers of your anxiety for the permanent safety of the working miner; and I feel satisfied the introduction of the Argand burner to the safety-lamp would be of great benefit to the colliery; his light would be increased, and explosions, in a great measure, rendered next to impossible, especially if perfect ventilation be universally carried into effect.—G. SHEPHERD, C.E.: Totnes, March 20.

[We willingly concur with Mr. Shepherd's request. The following is the diagram and description alluded to:—



The upper part of the lamp is supposed to be on Dr. Clanny's plan. The false, or double, bottom should have sufficient depth to admit a large portion of air to the flame. Perforated sheets of brass, or copper, would be preferable to wire gauze; and a transparent sheet of talc, or Muscovy glass, should surround the glass chimney, which then, in case of breakage, would still prevent the flame reaching the explosive atmosphere.]

HORSLEY'S SAFETY-LAMP.

SIR.—In regard to my lamp and letter, which I think the mining interest generally will thank you for publishing, convinced as I am of its superiority compared with other lamps, it has occurred to me that the main tube, which I have proposed for supplying the lamps with fresh air from the shaft, may be made to comprise everything useful by way of help; for instance, a wire connected with a bell at the top may be passed down, and a handle attached to ring it, so as to call attention to the parties below, who are desirous of procuring, or communicating something, by speaking through the tube, for which purpose it is only necessary to have a mouthpiece and slide-valve attached, and the rising this will not at all interfere with the lamps; besides which, the fresh air from the main tube may be used as a resuscitant in case of illness, or semi-poisoning, by the inhalation of the vitiated air of the mine; in that case a mouthpiece, with an inspiratory and expiratory valve, will be necessary.

Ryde, Isle of Wight, March 19.

JOHN HORSLEY.

MINERS' SAFETY-LAMP.

SIR.—Mr. Horsley, like Mr. Crane, in recommending his lamp to the notice of the public, forgets that colliers require good air to breathe in as well as light; he ought to have suggested also, that each man, as well as his lamp, should be furnished with a respirating gutta-percha pipe. Another set of pipes, terminating with bell mouths at the stalls, to communicate signals; by this means the poor colliers would not only enjoy Mr. Horsley and Mr. Crane's new lamps; but also be able to communicate to their inquiring friends above; that, although they were doomed to work in the inflammable regions below, yet they had the pleasure of enjoying the gutta percha pipes, smoking fresh air, as it were, in groups not very unlike the Turks, in their respective stations. When we consider how difficult it is to get proprietors to lay down small gas pipes, even from an exhausting machine along the main levels, with small branch pipes to those various recesses which are beyond the reach of the ordinary ventilating current, so as to obviate the necessity of the safety-lamps, it is not very probable that they will listen to the numerous absurd, complicated, and expensive methods proposed by those who know little or nothing of underground operations.—EVAN HOPKINS: London, March 22.

ON THE EXPLOSION OF BOILERS.

SIR.—Excuse my calling your attention to the fearful loss of life occasioned by the frequent bursting of steam-engine and other boilers; a considerable portion of these accidents are caused by the defective arrangement of the feed-pump and escape-valve, and notwithstanding an effectual remedy for both has now been made known for many years, yet numbers of feed-pumps and escape-valves are constantly being made equally defective as before, which would not be the case had there been a proper authority to have judged of and enforced the remedy.—H. HARTOP: March 22.

IRON LADDERS FOR MINES.

SIR.—If you think my suggestions of any practical value, be pleased to print them in your valuable *Journal* when you can spare room. I know you are at all times willing to lend your columns to correspondents who have anything to offer for the good of the mining population. I have noticed often accounts in the newspapers of fatal accidents occurring through the breakage of ladders in mines, which is generally caused by the wooden ladders being decayed and turned rotten by the water. Great danger is at all times caused by the rottenness of ladders, but especially when (as in Cornwall) they are used as the means of descent into mines of the depth of perhaps 300 fms. This tedious and dangerous mode of descent is avoided at the Tresavean Mine, by a most effective and useful apparatus, put down by Mr. Michael Loam. This plan ought to be adopted at every deep mine in the kingdom where ladders are still, or shall be used, I recommend that mining ladders be constructed of wrought-iron. Though in some cases iron ladders have been employed, their importance is not yet sufficiently made known, nor is their use sufficiently general. I recommend these suggestions to the notice of such of your readers as are either miners, engineers, ironmasters, or are connected with the mining interest. If considered really valuable, I am satisfied that some one will be found able and willing to carry them out. Supposing that iron ladders were used in every mine where ladders are wanted, the demand would be great, and an extensive branch of manufacture created. In a small one that I have constructed, the rounds or steps are formed of ½ in. rod-iron, the width between the two sides is 9 in., and their distance apart is 6 in.; the extreme length is 10 ft. The sides are made of flat bar iron, 2½ in. wide and ½ in. thick. The rounds are fastened in with nuts and screws, so that the ladder can be taken to pieces easily, for convenience of transport, and also for repairs. If a round be damaged, or worn out, it can soon be removed and a new one substituted. My method of fixing the rounds in is as follows:—I cause square holes to be punched in the two flat sides, 6 in. apart; the holes in one side corresponding with those in the other. Then a rod of ½ in. iron is cut up into 11-in. lengths. Each end of these short rods is next forged into proper shape, which is this:—that ½ inch from the extremity the rod is made 4 square to fit the square hole in the side bar; this square part is ½ in. deep, the thickness of the side bar, and the rod is made round ½ in. from the ends, to be screwed to take a nut which is ½ in. thick. If the rods were not thus squared, they

would soon wear loose and turn round when fixed in. A shoulder is thus formed on either end of the stepping rods, which enables the side bars to be screwed up tight against the steps, and so makes the ladder firm and strong. Iron ladders may be constructed of various lengths and strengths, to suit circumstances. Short lengths may easily be bolted together; and in this way a continuous ladder for the deepest mines can be made; or short ladders can be placed one after the other on landings or stages, as usual. The wrought-iron will, of course, rust, but will not wear out for every long time. I recommend, then, that iron ladders be henceforth used in all mines, instead of wooden ones. It is my sincere belief that their use will give increased security to the miner.

I would likewise beg leave to suggest to military men the expediency of constructing scaling ladders of wrought-iron; such would be very portable, safe, and strong; they could neither be consumed by fire, nor cut through with a sword. Finally, I would submit it to your wealthy readers, whether it would not be expedient to offer a premium to the mine that should first adopt iron ladders throughout. A premium called forth Mr. Loam's lifting machine. Might not, then, a premium cause miners to adopt speedily iron ladders?—H. Birmingham, March 20.

THE USE OF ANTHRACITE IN LOCOMOTIVES.

SIR.—Some interesting discussions have recently appeared in your Journal on the use of anthracite as a steam-coal; the results of the experiments have been variously stated, and the successful application of this fuel for such a purpose has been questioned, if not disproved. The subject is an important one—not only as regards this district, in which an immense quantity of it may be obtained, but as probably conducing to a diminished expenditure in the fuel required for engine and manufacturing purposes. Your correspondents have principally treated on anthracite as a substitute for bituminous coal in steam-boats; and, from the communication of "Flame," it appears that it is unsuited for such a purpose, having been unsuccessfully tried in a steam-boat on the River Thames. Your correspondent says—"I have seen many experiments tried; but never, except in one instance, saw that strong and lively flame produced from anthracite coal, which is so essential to the rapid generation of steam." If such a flame was indispensable, the failure of anthracite in producing it might have been anticipated, for one of its chief characteristics is its non-production of flame. As a substitute for raw bituminous coal its successful application is very doubtful; but it may probably be advantageously used instead of, and in conjunction with, coke. In the *Civil Engineer's and Architect's Journal* of May, 1839, Mr. Peppercorn says—"A short time since, a trial of anthracite was made under the sanction of the directors of the Liverpool and Manchester Railway, and the following is the report of the engineer of the company:—"In the first instance, the engine ran out with a load about six miles, and the coal was found to do very good duty, without any difficulty being experienced, either with the tubes or getting up of the fires. The engine brought back a load of coal waggons from the Hetton Colliery, and acquired a speed of 21 miles an hour this loaded. Another trial was made in the evening with the same engine for the whole distance to Manchester, taking five loaded waggons; the journey was performed in 1 hour 20 minutes. The consumption of anthracite was only 5½ cwt., although a large portion was wasted, from the fire-bars being too wide apart for the economical use of this fuel. The engine would have used upwards of 7½ cwt. of coke for the same journey."

This experiment, although made under some disadvantages, appears to have been unequivocally successful; and the only difficulty presented, seems to have arisen from the fire-bars not having been placed sufficiently near to each other to prevent the waste from decrepitation. Had the reasons been given why the use of it was not persevered in, other objections to it might possibly have been advanced; in the absence of such, however, we may presume that anthracite may be advantageously tried in locomotives as a substitute for coke. Should the results of more extended experiments disprove the expediency of so using it, recourse may be had to employing anthracite with the coke of bituminous coal, which, from the results of some recent experiments, made at the Neath Abbey Iron-Works, will probably tend very considerably to reduce the expenditure in working locomotives on railways, as well as the cost of fuel in iron and other manufactures.

It is well known that the small coal of anthracite is nearly unsaleable, although it may be obtained at half the cost of the large, from the great difficulty there is in using it economically. Mr. C. H. Waring, the engineer of the Neath Abbey Company's collieries, has recently tried some interesting experiments, by mixing certain proportions of the small of anthracite with that of bituminous coal, and coking them together. The product may be termed a conglomerate coke; for, after having been 12 hours in the patent ovens, the anthracite appears unchanged in nature or quality, but firmly embedded in the coke of the bituminous coal. Some of this "conglomerate coke" was tried in the cupola at the Neath Abbey Works last week, and on a previous occasion, with the most satisfactory results. Mr. Waring states, that it melted 14 times its weight of iron; whilst the bituminous coke (unmixed with anthracite) only bore at the most 10 times its own weight. The proportions of coal used in this conglomerate were three quarters of bituminous, and one quarter of anthracite small, well mixed together. The iron is said to have been of better quality—to have attained greater fluidity with less blast, and to have been produced with much less loss than when bituminous coke only was used. Further experiments, which are, in contemplation, will show whether the proportions of anthracite may be advantageously increased, or diminished, but the fact stated is sufficient to prove the value of the discovery, if such it be. There can be but little doubt but that this conglomerate coke may be beneficially used in locomotive engines, and if its increased power in producing steam be equal to its effect in the cupola, a saving of at least one-third of the present cost of fuel may be made in this important item of railway expenditure. Small anthracite coal may be purchased, free on board, at from 4s. to 5s. per ton at Neath, Swansea, or Llanelly, and may be taken to London, or elsewhere, to mix with bituminous coal; and the very probable benefits which will result from a trial of it, with the trifling risks of any loss accruing in consequence, certainly entitles the subject to the attention of the directors, engineers, and managers of railways.

Neath, March 20. J. RICHARDSON, C.E.

CORNWALL RAILWAY.

SIR.—At the meeting of the Cornwall Railway Company, held at Truro, on the 23d ult., the report of their financial affairs was presented; on which a few remarks might not be amiss. The total receipts is 196,063. 9s. 5d., and of outlay, 192,697. 10s.—leaving a balance of 3395. 19s. 5d.; but there being numerous outstanding claims, this balance is only temporary. The company, as such, are insolvent. Of the sum expended, 36,535. 10s. 11d. has been expended on "works." If the remainder of the works is to be executed after the same rate, 3,000,000. will hardly cover the cost of the line. It is natural for a party concerned to ask what works have been executed for the 36,535. I will answer that question by this brief reply—very little. "There are three bridges, or arches, over as many roads; a small cutting near Tigherdown; another near Dabuz's Moors; another larger one near Leman; and a small one near the valley between St. Clements and Probus. There is also a small part of a tunnel driven under the Mitchell-road, near Buck's Head; and for a distance of, I think, three miles, there are palings set up to mark the company's right; and there are the experiments at the Tamar. If these works could not have been accomplished by Mr. Trefry for one-half of the money which has been expended on them, I mistake. The directors are highly honourable men, whose characters place them above suspicion of any intentional misapplication of the company's money; but I must be allowed to tell them, that they must adopt a better mode of letting the work, or money will not be had to complete the railway. If they allow their extravagant engineer to go on as he has begun, and as he has done on other lines, we shall have no "Cornwall Railway." I would direct the attention of the directors to what fell from the chairman at the meeting referred to, and advise them to take the suggestion of such a practical man—a much better man than their engineer, so far as economy is concerned at least. He said—"When we first met for carrying out the Cornwall Railway; some 10 years ago, we thought that the employment of a large number of people in the county would relieve the poor rates which press on the farmers. I had at that time some conversation with Mr. Brunel as to the mode of employing people on the railway; and I differed from him in opinion. Mr. Brunel thought that, unless we had large contracts, the works would never be completed; but I must say I thought otherwise. In the course of my experience, I have never found much difficulty in carrying out works."

The analyses of these coals are as follows:—

	Volatiles.	Carbon.	Hydrogen.	Ashes.
Bituminous	17.46	80.64	2.476	
Anthracite	8.25	87.73	4.02	

by small contracts; and the magistrates and others in the neighbourhood of those works say they never had less trouble than with the men thus employed. The contracts I have made have been generally carried out; and, though they have been small contracts, I have had the work in general faithfully discharged. I do hope, therefore, that, when we recommence our works, we shall have Cornishmen to execute them, and that the work will be executed at Cornish prices; for, from the experience I have had, I see nothing in the construction of a railway that will warrant us in getting strangers to execute that work at double the sum we ought to pay. I have done something in the way of railway undertakings; and I purpose, at the next meeting, to lay a statement of the expenses before you, merely to show what can be done for little money. In no works whatever besides is there such a recklessness of outlay as in railways, for which no just reason can be assigned. We have often heard of extravagance in mine works; but I never knew a mine in which such waste of money has been committed, for the same quantum of work, as on this railway. I say, again, that 50 per cent. of the 36,000. has been, I think, thrown away. I have much confidence in such a gentleman as Mr. Trefry, and I hope that, ere the directors order any further works, they will "take a leaf out of his book."—A READER, March 15.

PARAGRELES-ON RAILWAYS.

SIR.—The priority of the recommendation for attaching lightning conductors, on the principle of the paragrelle, to the telegraphic wire supports on railroads, must be decided by an appeal to dates, and your pages recorded my suggestion—*verba scripta manent*.

I perceive that the provision in question has excited renewed interest. The "galvanised wire" in its tremors showed that it was subject to the electric condition of the atmosphere, and often rings a false alarm; besides the insulation was altogether imperfect. Gutta percha at once screens the wire from oxidation, and imparts an all but perfect insulation. The erection under such circumstances, at each support of the telegraphic wires, of a copper rod, not thicker than that of the electric telegraph, coated with gutta percha, I consider amply sufficient for every purpose. The projecting point above should be guided.

Portland-place, Hull, March 20.

CANDLES.

SIR.—I have been informed that what are called "decimal candles" have a metallic wick of bismuth, and sometimes prove deleterious to health, from their yielding arsenical vapour. Other candles, that require no snuffing, from their more perfect combustion, have their wicks previously steeped in solution of nitre, or chloride of potassa, as first recommended by me in the *Edinburgh Philosophical Journal*, more than twenty years ago.

Portland-place, Hull, March 20.

"NARROW-ESCAPE FROM SUFFOCATION."

SIR.—In a paragraph in your last Number, which is thus headed, the all but fatal effects are ascribed to "sulphurous gas"—a most erroneous supposition. Anthracite is found in Wales, and the products of its combustion are carbonic acid gas and carbonic oxide—both act as narcotic poisons on the brain, and soon suspend the vital functions. The agency of carbonic oxide, from its being more subtle than the other, is, perhaps, the more promptly fatal of the two, though the least suspected.

A precisely similar occurrence took place some time ago among the shipping in the port of Hull; but the issue was fatal, for the entire number irreversibly perished. In cases of apparent death from such causes, cold water should be thrown on the body, and poured from a pitcher on the back part of the head, and the usual excitants and stimulants employed.

Portland-place, Hull, March 20.

[We wrote the paragraph alluded to by Dr. Murray from the information afforded us, that the coals were a still sulphurous, bituminous coal from Wales, and not Welsh anthracite. Still carbonic acid, or carbonic oxide, might have formed part of the narcotic vapour, but not to the extent which would have been supplied by anthracite.]

THE GOLD EXPERIMENTS—ALCHEMY.

SIR.—I had supposed that the dreams and visions of the "philosopher's stone" were "over and gone," and that we, in this nineteenth century, had been too much linked to stern realities, than to be led astray by these phantasies—the gilded bubble of a visionary's brain.

California appears, however, to be the watchword which seems to recall the "good old times" of Basil Valentine, Van Helmont, and Paracelsus. There was an old visionary, who died, I remember, some years ago at Hereford, and who had spent the latter years of his life underground, tending his alembics and his crucibles with pious care, and, like the vestal virgins, fanning the "sacred flame" of a false and fictitious hope. When he died, I had concluded that the last of his race had expired. The ashes of his crucibles, and the *caput mortuum* of his alembics alone remained—the monuments and memorials of his folly!

I am amazed at two of the communications which have recently blazoned your pages, to which that from Liverpool is an able commentary! These writers cannot be in earnest—though, as a joke, it is, perhaps, well enough; but men now are too wide awake to be so easily cheated of their senses. Genuine gold can only possess one uniform colour; but we have "deep gold" and "pale gold"—it is so with reference to gold leaf—these cannot be the same; it is probable that platinum is present in an almost infinitesimal amount in the latter. Platinum is the frequent accompaniment of gold, and, like it, is only soluble in a solution of chlorine.

I remember that Mr. Cooper, some years ago, formed an alloy of copper and platinum, so much resembling gold, even in its specific gravity, that it was feared it might be substituted for it. The famous controversy with Dr. Brown, on the question of the identity of carbon and silicon, should make us cautious as to the vague and unmeaning assumptions and absurdities referred to.—J. MURRAY: Portland-place, Hull, March 20.

GOLD EXPERIMENTS.

SIR.—I was much gratified by the perusal of two articles, signed "N," in your Journal of the 17th inst.—I need not say more particularly so by that referring to some experiments which appear to have been conducted on a principle very similar to my own. I hope soon to be in communication with "N," on the subject. In another part of the same paper is an extract from the *Liverpool Albion*, stating that an ironfounder of that town had discovered a method of converting iron into gold by the ton weight, or, indeed, to any extent. I should have been a good deal startled by this announcement, had I not perfectly remembered a similar one having been made many years ago. It was found to have originated in the deposit of a peculiar kind of iron pyrites in the crevices of a blast-furnace, and, without further particulars, it is impossible to say whether the present one may not eventuate in something similar.

As regards my own discovery, having tested the metal in every possible way, I have not the slightest doubt as to the fact of the conversion of another substance, or substances, into gold; but many experiments are yet required to fix the precise materials and conditions essential to success; those experiments it is not in my power to undertake. I do not at present know whether the process was completed in six months, or six years; it is very possible that, when properly understood, it may be conducted in a few weeks, or even days; yet the determining of that fact, though involving the expenditure of but little money, will require a devotion of time and attention incompatible with the only means which I possess of obtaining a present subsistence. It is, therefore, my intention forthwith to publish a full account of my experiments, hoping that the matter will be taken up by parties more favourably circumstanced for pursuing it; and trusting that the first who may do so successfully will not, while enjoying any advantages he may derive from it, forget the humble originator of the discovery.—B. C. D.: March 19.

THE SOCIETY OF ARTS—JOBING.

SIR.—It is with regret I feel called upon to direct your attention to the existence of a system of jobbing in the management of this society, which, if not checked in time, must prove sadly detrimental to its best interests. Your correspondents have already remarked, with justness, on the prejudicial effects of the recent introduction of matters of a different description to those contemplated by the founders of our excellent institution; but when they learn that there is too much reason to fear that undue influence has been exercised to obtain the opportunities of converting the society's rooms into a medium of puffing the designs, or manufactures, of particular individuals, I am sure their regret will be redoubled. It is, however, somewhat consolatory, to know that the practice is not approved of by the council generally—indeed, the last two or three meetings have, as I am informed, been long in duration and stormy in character, and I am not quite sure but that the subscribers will have an opportunity of

judging of the nature of their deliberations on the subject. I have alluded to by the publication of some portion of their proceedings. As a great admirer of the society, and a firm believer of the vast benefits it is calculated to confer by a steady yet spirited pursuance of the objects originally contemplated, it is with sorrow I have felt called upon to allude to the existence of a division in the council; but, having previously experienced the beneficial tendency of similar public comments, I am induced to hope that the council may be aroused from their apathy, boldly release themselves from ties by which they are entrammelled, and enter on an earnest and faithful system of management.—R.: Trafalgar-square, March 20.

TREATIES OF COMMERCE AND PATENT LAWS.

SIR.—I am sure that none of the readers of the *Mining Journal*, after my openly avowed opinions upon the subject of the Patent Laws, will suppose that I am such a supporter of the rights of the patentee as to desire to see them advanced, even to the detriment of the public interest; but, however tenacious I may be that the public property be respected, notwithstanding the claims of the inventor and the patentee, I cannot pass over, without comment, the remarks which appeared in last week's *Journal*, under the title of "Treatise of Commerce and Patent Laws," based, I presume, upon one party's version of the case, in which it appears to be argued, that whenever a patent monopoly shall prevent the importation of foreign goods, such monopoly ought to be considered void—a doctrine that, I think, few persons would give a hearty assent to, seeing that, should it be carried out in practice, a patent right would be of small value, as a party wishing to infringe a patent might "depart these realms," establish a manufactory in another state, and import the patented articles into this country with impunity.

With regard to the case which gave rise to the remarks adverted to, concerning it, as I do, as proceeding from one of the parties only, it appears to me that with that self-deception very common to persons when treating their own case, they have fallen into some serious errors—thus, much is said about monopolies being repugnant to law, and about articles manufactured abroad being "legitimate articles of importation," all which is true enough; but other truths must be taken in connection with them, as, that monopoly patents for new inventions are perfectly legal and valid, and that articles, though imported into this country, must be subject, of course, to the municipal law thereof, and, consequently, to the rights of inventors and patentees.

But it will, perhaps, be said, that a patent for an invention that is already notoriously in exercise in another country, is not a patent for a new invention. Now, this is a very natural view of the law, and to an American particularly so, because, by the United States law, an invention to be susceptible of a valid patent, ought to be literally original, and never published in any country previous to the patent; but this is not the interpretation to be given to the words, "new inventions," as used in the Statute of Monopolies, for it must be observed, that that statute is what is termed a "Declaratory Act"—that is, it merely fixes and explains the common law, and does not repeal an old law and make a new one, and by the previous common law it is well known that an invention to support a patent is simply required to be new as regards these realms, see the cases of *Darcy v. Allen* (Noy R. 173, &c.), *The Clothworkers of Ipswich* (1 Roll R. 4, &c.), and *Edgeberry v. Stephens* (2 Salk, 447), &c.—indeed, since the last-named case, a patent right has never been questioned, on the grounds that it was not an original, but only an imported invention.

As to whether it is public policy, that the law should stand as it does in this respect, is a question upon which I have not yet matured an opinion, as whenever I have considered the subject, I have seen the *pros* and *cons* equal. It appears to me, that the great points of the defendant's case are the particular circumstances under which the patent was obtained, the date, and the nature of the communication that took place between the agent of the American manufacturer and the English patentee.

Patent office, 210, Strand, March 22. F. W. CAMPBELL.

AMSTERDAM WATER-WORKS.

SIR.—Trusting to your indulgence, I am induced to call your attention, and, through you, that of your readers, to a company lately projected for the supply of water to Amsterdam, and styled the Amsterdam Water-Works Company; not, however, with the view of creating undue prejudice against the undertaking, but rather of leading the public to inquire into the arrangements between the concessionaires and the promoters with the directors (whose acts are binding upon those who may become shareholders), the extent of the obligations already incurred; and supposing the works, contemplated to be hereafter carried out, the annual charges upon the revenue, as to the abstract merits of the scheme itself.

Experience, Sir, has, or ought to have, taught us prudence in meddling with foreign companies. It is not so long since that experience was dearly and sadly bought that it can be forgotten already; and if it would dictate one thing more than another it is a spirit of inquiry—a love of the old axiom, "look before you leap." We should investigate the behind-the-scene arrangements—see and judge for ourselves of the probability of the assumed results, if a certainty cannot be arrived at, instead of handing our judgment away with our money to other folks' keeping. I suppose it must have been chance, but so it has been, that most foreign companies of greatest promise, on paper, have proved the greatest failures, and thus the idea has been raised in one's mind that, in the calculations of the promoters of these companies, "the wish was father to the thought."

So much, Sir, for generalities; and now to the matter in hand. The supply of pure water to a city so devoid of this necessary of life as Amsterdam, looks well and seems to promise well, and, as far as I can judge, is perfectly feasible, provided the cost is not too great, and the arrangements alluded to above, too burdensome; and last, but very important, provided Mr. Simpson, the well-known and able engineer, whose name appears to the prospectus, is satisfied with all that has been done by the Dutch engineers. If these several points are clearly shown, I think it not at all improbable that it might be a paying concern.

But, Sir, I have learnt from very good authority, there is great reason to doubt this, and that this is the cause why the directors have failed so far in obtaining further co-operation; whilst those who have joined have only done so on the understanding that they are not required to take any shares, or to hold any interest in the company, further than the management of its affairs, on a very adequate salary (unless it be a simple qualification, as required by the laws of Holland, I believe one share).

It would be well to inquire if this be not so; and if the company is not saddled with the payment of 60,000. or 10 per cent. on the capital of 600,000., as the price of the concession; and if not, what the price is? If one-fifth of the surplus profits is not to be paid to the promoters or concessionaires, after a certain payment to the shareholders in addition thereto; and if the report of Mr. Simpson adopts and approves that of the Dutch engineers; or, on the contrary, whether he has not distinctly stated in his report that their plans and sections are imperfect, their designs defective, and their estimates extravagant; and that the undertaking can only pay under prudent and economical management; and, whilst he is unable to come to any just conclusion from the data before him, wisely preferring to go himself to Amsterdam, and gain data on which he can rely, from his experience in water-works, he does not state a capital of 350,000. is ample for the purpose of the undertaking, allowing 32,000. for contingencies?

Set this, Sir, by the side of a capital of 600,000., and the natural question will arise, what is the object of so large a surplus capital? Does not the answer readily suggest itself? Thus, if 600,000., at 10 per cent., gives 60,000. as the price of the concession, then 350,000., at 10 per cent., gives only 35,000. as the price of the concession. I have thrown out these hints for the consideration of those who would become shareholders. If the directors answer them boldly, truthfully, and satisfactorily, well; if not, I shall have done some little service in preventing your readers from casting their money into a concern already paralysed, if report speaks true, by the dead weight of the concession, and it appears that this capital of 600,000. is fixed to suit the price of the concession, and is a sine qua non in the formation of the company.—VERAX: March 22.

ADULTERATION OF GOLD AT MALTA.—A correspondent, under date March 12, writes:—"I mentioned some time ago, that a discovery to some extent had been made of an adulteration in the value of gold and silver articles manufactured here, by the introduction of a surplus quantity of alloy; and yet, notwithstanding this inferiority of the metals, they were assayed here at the standard rate of fineness. It is not proved beyond all doubt that gold ornaments stamped for and sold at 50s. the ounce, are not worth more than 40s.; and silver spoons, &c. stamped at 3s. 9d. per ounce, are only worth 2s. 6d. The fact is that the assayer is either a rogue or a fool. Malta was once famed for the purity of its gold and silver ornaments; it will be so no longer, since a Government assayer is permitted to stamp the metals at a fourth more than their real value. We shall see what the Government will do in this affair."

RIDER'S RAILWAY BRIDGE.—This BRIDGE, BUILT wholly of IRON, will be erected by the PATENTEE on the following terms:—A BRIDGE, of 150 spans, for a double track railway, broad gauge—Price £2000. A BRIDGE, of 100 spans, same dimensions—Price £1000. These prices are exclusive of abutments or piers. ROADWAY BRIDGES at a reduction on cost of from one-half to two-thirds. Apply to S. MOUTON, Patentee, Bradford, Wilt., or to Howard Jacobson, Suffolk-lane, Thames-street, London.

CUNNINGHAM AND CARTER'S NEW SYSTEM OF RAILWAY PROPULSION.—Railway Directors, Engineers, and the public generally, are invited to examine this system, which may be VIEWED on Mondays, Wednesdays, and Saturdays, from half past eleven to three o'clock, at Ingram's Manufactory, 39, CITY ROAD, near Finsbury-square. The following is an estimate of the daily expense of working a double line of 50 miles long, during a period of 10 hours, with trains starting from each terminus every half hour—six trains always running on the line:—
Coals for five stationary engines, of 100-horse power each, at 5 lbs. per horse-power per hour each (say, 11 tons, at 14s. per ton).....£ 7 14 0
Wages—Engineers, with relief, 10 at 6s.£ 3 0 0
" Stokers ditto 10 at 4s.£ 2 0 0
" Cleaners ditto 10 at 3s. 6d.£ 1 5 0
" Drivers ditto 12 at 5s.£ 3 0 0
" Guards ditto 12 at 5s.£ 3 0 0
Twenty men stationed on the line, 3s. 6d. each.....£ 0 13 5 0
Repairs of engines, with depreciation, &c., at £200 per annum, each X2=1000.
per annum—daily proportion£ 2 15 0
Contingencies£ 4 6 0
Total.....£30 0 0
Forty trains, at 15s. per train=£60, being a fraction over 3d. per train per mile, independent of a saving of one-third of the present expense in the maintenance of way.

CWMBRAIN PATENT IRON REFINERY.—The PROPRIETORS OF IRON FORGES AND MILLS are respectfully INVITED to MAKE TRIAL OF MR. BLEWITT'S REFINED IRON, OR METAL, PREPARED by a NEW PATENT PROCESS.

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST FURNACE, and is of a judicious mixture, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pig, scrap, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. THE PATENT METAL IS PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—
1. For BOILER and TANK PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-roads, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B." and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

JAMES BOYDELL, LAND, MINE, AND MACHINERY VALUER, AND AGENT.

No. 54, THREADNEEDLE-STREET, LONDON. Has to DISPOSE OF a large quantity of STEEL and MANUFACTURED HARDWARE, now warehoused in London.

Several valuable PATENT RIGHTS, some of which have been profitably worked. A FREESTONE QUARRY, in North Wales, from which, on account of its quality, the small cost of getting and working it, and its proximity to the sea, London may be supplied at lower prices than those now ruling for much inferior stone, and a large profit left to the proprietor.

An IRONSTONE MINE, likewise in North Wales, worked open cast, close to a shipping port, and now in profitable work.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete, with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an annual return to the purchasers of 10 per cent.

J. BOYDELL has also at his DISPOSAL a RESIDENCE and LANDED PROPERTY in SHROPSHIRE, which is in a good neighbourhood, and which a large portion of the land adjoining the house being of a most picturesque character, and well timbered, with a streamlet running through it might be made a country residence for any nobleman or gentleman, such as but few in the kingdom would bear comparison with. Particulars of the above may be had, upon application, at 54, Threadneedle-street.

ECONOMICAL STEAM-ENGINE.—Surpassing the Cornish. CRADDOCK'S PATENT DOUBLE CYLINDER HIGH-PRESSURE EXPANSIVE AND CONDENSING ENGINE.

ALSO ADAPTED FOR MARINE, LOCOMOTIVE, AND STATIONARY PURPOSES. BOILER—Tubular, free from deposit, and perfectly safe from explosion. ENGINE—Not half the weight or bulk of ordinary engines.

FUEL—Not half that required by the best engines of the common kind. WATER—Under one gallon per horse-power per day of 10 hours, for all purposes, with air as the medium of condensation.

These engines are erected at a comparatively trifling expense, and are easily worked.

FOR SALE.

TWO 40-horse power ENGINES, suited to condense either by air or water.

ONE 35-horse power ditto ditto ditto

TWO 30-horse power ditto ditto ditto

ONE 14-horse power ditto ditto ditto

A PAIR OF OSCILLATING MARINE ENGINES, of 10-horse power.

PRICE—£20 per horse-power.

These engines are quite new, with boiler, condenser, and regulating damper—all got up in the best and simplest manner. They are much simpler, and almost beyond comparison more compact than the Cornish engine, also more safe and economical than even those engines, yet the price of the Cornish is nearly double that at which these are offered.—Parties wanting engines will find in the above good bargains.

Apply to Thomas Craddock and Co., engineers, 35 and 36, Broad-street, Birmingham, where engines on the above principle may be seen at work.

Also ON SALE, THREE 4-horse HIGH-PRESSURE ENGINES, simply arranged, and well got up.—Price £12 per horse-power.

TO ENGINEERS AND BOILER MAKERS.—The BIRMINGHAM PATENT IRON TUBE COMPANY

MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, Tubes for Gas, Steam, and other purposes. All sorts of IRON GAS FITTINGS.

WORKS—Smithwick, near Birmingham.

LONDON WAREHOUSE—No. 6, Upper Thames-street.

PORTER'S PATENT CORRUGATED IRON BEAMS, GIRDERS, AND FIRE-PROOF FLOORS.—These BEAMS and GIRDERS are about 30 per cent. lighter, and 20 per cent. cheaper, than any others of wrought-iron.

The FIRE-PROOF FLOORS, although not more costly than those of cast-iron, with brick arches and concrete, give greater security from fire, with less than one-tenth of the weight.—MANUFACTORY—IRON BUILDING & ROOFING WORKS, SOUTHWARK.

OFFICE—3, ADLPH-STREET, LONDON-BRIDGE, CITY.

PATENT MINERAL PAINT.—After three years' trial on the sides and bottoms of iron and timber-built ships, this PAINT has proved itself equal to copper as a protection from vegetation, as well as the sea-worm and all other adhesive matter. It is also peculiarly adapted for spouts and gutters, iron railing, felt or wooden roofs, tarpaulings, damp walls, or any other surface that requires to be made waterproof at a small cost, and is ready for use, in casks of 2 to 30 gallons.

Brilliant black, 2s. per gallon—Rich brown, 2s. 9s. per gallon.

EMERSON'S PATENT LIQUID CEMENT.—This valuable and economic PAINT is so adhesive, that it will cling to any surface—brick, Roman cement, and all other plastered work; and, being a rich cream colour, is more pleasing and natural in appearance than oil, and at an eighth of the cost. It is ready for use, will dry in a few hours, and possesses the property of protecting the walls as well as Roman cement. Sold in casks of 1 cwt. 2 cwt., and 5 cwt., at 5s., 10s., and 21s. per cask. GEO. LEAR & CO., Sole Agents, 16, Basing-lane, Chappin.

PATENT ALKALI COMPANY'S METALLIC PAINTS.

COLOURS—BLACK AND PURPLE BROWN.

These paints (the products of a patent process), possess peculiar and valuable properties not otherwise attainable, and are perfectly free from the deleterious qualities of white-lead. They surpass all other paints even yet discovered in point of DURABILITY and ECONOMY; two coats being more than equal to three of any other description. From their chemical composition, they are pre-eminently adapted for covering IRON; also STUCCOED OR BRICK BUILDINGS, and every kind of WOOD WORK. The process by which the base of these paints is produced, makes it impossible that any change should take place in their composition from atmospheric influence. Their identity with iron secures them from galvanic action, so fatal to the durability of lead and other paints on iron work.

They have been exposed on SHIPPING to the action of sea water, and of the sulphuretted hydrogen so prevalent in sea ports and tidal harbours, for more than THREE YEARS, without change.

Their CHEAPNESS and STRENGTH render them peculiarly eligible for IRON BRIDGES, ROOFS, and RAILINGS, FARM BUILDINGS, and SHIPPING.

The attention of the SHIPPING INTEREST is particularly directed to the company's patent compound metallic BLACK PAINT (the only metallic black paint of any value in existence), which will be found to act as a most valuable preservative when applied to iron steam-boats, and wooden vessels. It also forms a beautiful covering for STOVES, and is susceptible of a high polish.

Several imitations of the Patent Alkali Company's paint having been sold under the name of IRON PAINT, the directors of the company deem it necessary to caution the public that no other iron paint is genuine, or partakes in any degree whatever of the properties of the company's paints, the base of the latter being obtained solely by a series of processes, which are protected by the company's patents, and to which alone is owing their extraordinary body, or covering power. Numerous and most satisfactory testimonials have been forwarded to the company's offices, copies of which may be had of the secretary or of the agents.

Price, by the ton, £25, delivered in London or Liverpool, exclusive of packages.

To be obtained exclusively on application to the secretary, Mr. J. A. West, at the offices of the company, 20, Fenchurch-street, London; or of any of the undermentioned parties, who are the only agents of the company:—

Messrs. Evans Brothers, London; Messrs. Matthews and Leonard, Bristol; Messrs. Evans and Hodgson, Exeter; Messrs. Clarke and Hill, Yarmouth, Norfolk; Mr. D. Sandeman, Glasgow; Mr. G. Sandeman, Dundee; Mr. E. Bradford, Yorkshire; Mr. R. B. Farr, Edinburgh; Mr. W. Bailey, Overland, Messrs. Vint and Co.; Newcastle-on-Tyne; and Sunderland; Mr. Robert O'Neil, Plymouth; Mr. John Fox, Truro, near Falmouth.

ALBION PLATE GLASS COMPANY.

INCORPORATED PURSUANT TO ACT OF PARLIAMENT.

Capital £500,000, in 5000 shares, of £50 each, with power to increase to £1,500,000.

Deposit £25 2s. 6d. per share.

MATTHEW FORSTER, Esq., M.P., New City Chambers.

Captain CHARLES EDWARD MANGLES, Esq., Guildford.

GEORGE FREDERICK YOUNG, Esq., Limeshouse.

FREDERICK YOUNG, Esq., Banbury, Middlesex, Chairman.

EDWARD SMITH, Esq., Old Broad-street.

WILLIAM MACDONALD, Esq., Savage Gardens.

JOHN HOPPE, Esq., Bishopsgate-street-without.

JOHN ROBERTS, Esq., Crosby-square.

JOHN MORRIS, Esq., East India-road.

Samuel Sharp, Esq., Albany, near Guildford; Joseph Causton, Esq., Eastcheap.

BANKERS. London Joint-Stock Bank.

SOLICITORS. Messrs. Shearman and Stirling, 23, Great Tower-street.

MANAGERS. Mr. Henry Howard, Plaistow, Essex.

Within the last 12 years, the sales of plate glass have increased from 7000 feet to 70,000 feet per week. This increase has been produced 50 per cent. in the last 20 years, whilst the increase in consumption has amounted to 1400 per cent.

Mr. Robert Peel, prior to abolishing the Glass Duties, in 1845, declared in Parliament:—

"If you give full and unobstructed freedom to the capital and enterprise of this country, with its peculiar advantages of materials, the command of alkali and coal, my belief is, you will supply almost the whole world."—Times, Feb. 15, 1845.

This opinion is now confirmed by experience, which has proved that the much dreaded foreigner is unable to compete with the British manufacturer in this market, and must, therefore, in all the great markets of the world, give way to the superiority of British enterprise. And the successful results of Mr. Robert Peel's measure are clearly shown by the greatly reduced price to the public, the increased and increasing demand, and the large profit realised by the English manufacturer.

The present company not interfering with existing establishments, but copying their excellencies, and carefully avoiding their defects, will, by a superior application of machinery, and the adoption of important scientific improvements, be enabled, not only to construct works at about half the cost of similar undertakings, but also to carry them on at decreased permanent charges.

Whilst the increased consumption of Plate Glass in the home trade has been enormous, the last annual Parliamentary Return on Glass, No. 305, May 5, 1848, exhibits the increased Exports of 1847 over those of 1846 as being:—

In Looking Glasses 49 per cent.

In Plate Glass 110

The locality of London having been proved to be peculiarly favourable to this manufacture, the directors have agreed for the purchase of an eligible plot of freehold land, which, being bounded by the River Thames and North Woolwich Railway, commands both those desirable means of communication, in addition to a good ordinary road. Other important arrangements are in active progress with eminent contractors, whereby the works may be completed, so as to finish glass for the market, within 12 months from the commencement. The plans, which have been laid down from long practical experience, are so arranged, that, by a judicious concentration of power in labour and machinery, the operations of the company may, on the site chosen, be hereafter carried out to an extent greater than that of any other establishment.

This undertaking, which, as an investment, presents unusually large and permanent advantages, was brought before the public in the panic of 1847, and during that eventful crisis the bond-fide applications were for more than half the required capital.

In order to enable the directors to avail themselves of the present favourable opportunity, arising from the season of the year, and the low prices of building materials and machinery, it has been determined to close the subscription list within a brief period.

Applications to be made to the directors, at the company's offices.

Offices, 4, Railway-place, Fenchurch-street, City. H. SHEARMAN, Secretary.

COMBINED VAPOUR ENGINE COMPANY.

PROVISIONALLY REGISTERED.

Capital £250,000, in 12,500 shares, of £20 each.

Deposit £2 per share—2s. to be paid upon allotment, and the remainder of the deposit upon complete registration.

JOSEPH THOMPSON, Esq., John-street, Bedford-row.

THOMAS VARDON, Esq., Esher, Surrey.

DIRECTORS. C. OGLE, Esq., Withdean House, near Brighton.

GEORGE CLARKE, Esq., Hans-place, St. James-street.

JOHN WEBSTER, Esq., Blackburn House, Southgate, Middlesex.

D. AUSTIN, Esq., Paragon, Worthing.

AUDITORS. Thomas Young M'Christie, Esq., Great James-street, Bedford-row.

Charles Brockman, Esq., St. John's-place, Battersea-rise.

BANKERS. The Commercial Bank of London.

CONSULTING ENGINEERS. Messrs. Du Tremblay de Lyons, C.E., &c. &c.

ACTING MANAGERS. Mr. John Harris, London-bridge Station.

SELECTIONS. Messrs. Richardson and Talbot, 47, Bedford-row.

SECRETARY. B. Talbot, Esq.

Applications for shares may be made to the secretary, at the offices of the company, 47, Bedford-row, where prospectuses, with the form of application for shares, and every information respecting the company may be obtained, as well as cards of admission to view the engine.

This company has been formed for the purpose of carrying out a patented invention, known as the Combined Vapour Engine.

The invention is applicable to all purposes for which steam-power is employed, and may be adapted to existing steam-engines, at a comparatively trifling cost.

By the application of this invention to the ordinary steam-engine, the power is more than doubled, without any increase in the consumption of fuel; and, consequently, a saving of at least one-half in the cost of working the engine, as well as in the space occupied, is effected.

The Combined Vapour Engine is exhibited in action every Friday, from One to Three.

BORNEO.

EASTERN ARCHIPELAGO COMPANY.

INCORPORATED BY ROYAL CHARTER.

JOHN MACGREGOR, Esq., M.P. (late secretary of the Board of Trade), Chairman.

Capt. C. R. DRINKWATER BETHUNE, R.N., C.B., Deputy-Chairman.

Lieut.-Colonel the Hon. GEORGE T. KEPPEL, M.P.

H. HAMILTON LINDSAY, Esq. (late of the Hon. East India Company's China Service).

ALEXANDER NAIRNE, Esq. (director of the Peninsular and Oriental Steam Navigation Company).

Sir JOHN PIRIE, Bart. (deputy-chairman of the Peninsular and Oriental Steam Navigation Company).

Colonel RAWDON, M.P.

HENRY WISE, Esq. (late of the Hon. East India Company's Maritime Service).

John Hampden Gledstanes, Esq. (firm of Messrs. Gledstanes and Co.).

James Mackillop, Esq. (firm of Messrs. Palmer, Mackillop, Dent, and Co.).

SECRETARY. Mr. E. G. Flight.

BANKERS. Messrs. Glyn, Harries, Mills, and Co., London.

The objects of this company are, to carry on mining, agricultural, and trading operations in the Eastern Archipelago, and the acquiring and disposing of lands in the island of Labuan, and the parts adjacent (Borneo), a region abounding in mineral wealth, most fertile in all the valuable tropical productions, and very happily situated for the purposes of commerce.

Applications for detailed prospectuses, and for the remaining shares, may be addressed to Messrs. Carden and Whitehead, No. 3, Royal Exchange Buildings; Messrs. Gledstanes and Co., No. 8, Whitehall; Messrs. Lillie, Pritchard and Dale, Liverpool; A. Krass, Esq., Manchester; R. H. Stephenson, Esq., Glasgow; Messrs. Riddells and Myers, Leeds; T. F. Dickinson and Co., Newcastle-on-Tyne; William Bell, Esq., and Messrs. J. Wilson Pillans and Co., Edinburgh; J. A. Wilson, Esq., Dublin; John Macgregor, Esq., M.P., Chairman, Athenaeum Club, Pall Mall; Henry Wise, Esq., Managing Director; or

Mr. WOOLLEY, Secretary, at the temporary offices of the company, No. 1, Adam-street, Adelphi.

THE BRITISH BANK.

TO BE INCORPORATED BY CHARTER.

Responsibility to be limited, and deposits on shares returned in full, if not incorporated.)

FOR RECEIVING DEPOSITS AT INTEREST, DISCOUNTING BILLS, MAKING ADVANCES ON APPROVED SECURITIES.

GRANTING CASH CREDITS, AND TRANSACTING EVERY OTHER DESCRIPTION OF BANKING BUSINESS, ON THE SCOTCH SYSTEM.

TEMPORARY OFFICES—No. 55, THREADNEEDLE-STREET, LONDON.

TROUSTERS. ARTHUR ANDERSON, Esq., M.P.

WILLIAM CASH, Esq., of Wood-street.

JOHN MOXON, Esq., of the Regent's-park.

DIRECTORS. JOHN MACGREGOR, Esq., M.P., Governor.

R. HARTLEY KENNEDY, Esq., Deputy-Governor.

ARCHIBALD W. BLAKE, Esq., Deputy-Governor of the Australian Agricultural Company, King's Arms-yard and Salt-hill, Slough.

HUGH INNES CAMEHORN, Esq., Palace-yard, and Dingwall, N.B.

FRANCIS EDWARDS, Esq., Westbourne-terrace, Hyde-park.

EDWARD ESDALE, Esq., City Saw Mills, Regent's Canal.

DAVID FERGUSSON, Esq., Eastcheap, and Champion-park, Camberwell.

THOMAS HOW, Esq., Eastcheap, and Gordon House, Turnham-green.

R. HARTLEY KENNEDY, Esq. (Deputy-Chairman of the Oriental Bank), Walbrook, and Westington Lodge, Notting-hill.

J. W. LEARMONTH, Esq., of Long-acre.

JOHN MACGREGOR, Esq., M.P., for Glasgow.

W. SOMERVILLE ORR, Esq., of Paternoster-row, and Church Hill, Walthamstow.

APSEY PELLATT, Esq., of Holland-street, Blackfriars, and Staines, Middlesex.

THOMAS MITCHELL, Esq., of Bishopsgate-street-within, and Dorset-square.

With power to add to their number.

Application for shares will be received by the secretary at the temporary offices of the bank, No. 55, Threadneedle-street, London; and of the following stockbrokers:—viz. Messrs. Huggins and Lang, No. 14, A. Austin, London; Thomas Gascoigne, Esq., Manchester; George Wise, Esq., Leeds; John Smith, Esq., Leeds; S. Morgan, Esq., Bristol; James Harvey, Esq., Halifax; Messrs. J. W. and S. Nutt, York; E. M. Brodie, Esq., Liverpool; Messrs. Karp and Son, Derby; Messrs. Williams and Sunderland, Leicester; Messrs. Blackwood and Thomson, Edinburgh; A. Reid, Esq., Glasgow; Messrs. Black and Burgess, Aberdeen; and J. Winks, No. 22, Market-street, Newcastle-upon-Tyne—from any of whom detailed prospectuses may be obtained.

DUISBURG IRON-WORKS AND MINES, in WESTPHALIA, CLOSE TO THE RHINE.

MANAGED IN ENGLAND ON THE COST-BOOK PRINCIPLE.

The demand of the North-Western States of the Zollverein for pig-iron smelted with coke requires an annual importation which, in 1846, exceeded 100,000 tons of that metal.

Its present average current price, in Westphalia, inclusive of duty, is, per ton 45 16 8

Being possessed of extensive mines of iron ore, entirely paid for, the Duisburg Company proposes to turn out this year only 150 tons of pig-iron, made with coke, per week, which, owing to circumstances peculiarly favourable as to minerals, fuel, and carriage, can be produced at a cost, per ton, not exceeding 2 0 0

Thus leaving for division among the holders of the 3000 shares, in which the capital stock is divided, a net profit, per ton, of£3 16 8

Or £9 per share of £15.

Every further information to be obtained, and specimens inspected, at the company's offices in London, 28, Moorgate-street.

HOLNE PARK TIN AND COPPER MINE.

(WORKED ON THE COST-BOOK SYSTEM.)

Capital £7680, in 1536 shares, of £5 each.—Deposit £3 per share.

OFFICES—18, ADAM-STREET, ADELPHI.

This valuable MINERAL PROPERTY is situated in the parish of HOLNE, in the county of DEVON, on the banks of the River Dart, and held under an agreement for lease of 21 years, at 1-19th dues.

This mine is a new discovery, and now at work to the south of the Whildon, Ashburton United, and West Bann Tin and Copper Mines, about 3 miles; and to the north-east of Coombe Tin Mine, 1 mile. It is about 2 miles west of the town of Ashburton, and 3 miles from Totnes, through which place the South Devon Railway passes to Plymouth, by means of which the ore can be conveyed to port for exportation, at a very moderate expense. The River Dart being navigable as far up as Totnes, also affords an easy and cheap mode for exportation.

The set is in a beautiful kyllas, or clay-slate strata; there are four lodes now worked on, and there are several large lodes of tin and copper traversing the set—all composed of gossan, soft spar, prisms, mundie, carbonate of lime, and large rocks of copper ore, of rich quality (from 14 to 26 per cent.).

To the west of this set the lodes form a junction with the Dartmoor granite range, where the great deposits, both of tin and copper, &c., have been discovered, making the largest and most productive mines in Cornwall and Devon.

The River Dart, running at the foot of the hill, can be made available (with a small outlay) for all the purposes of the mine, thereby superseding the necessity for steam-power, and causing a great saving in the working of the mine.